21009

ARCHIVES

OF

OPHTHALMOLOGY

EDITED IN ENGLISH AND GERMAN

BY

DR. H. KNAPP
OF NEW YORK

AND

DR. C. SCHWEIGGER
OF BERLIN

IN CONJUNCTION WITH

Drs. C. R. AGNEW, R. O. BORN, C. S. BULL, E. GRÜNING, H. D. NOYES, T. R. POOLEY and D. B. ST. JOHN ROOSA, of New York; A. ALT, of St. Louis; J. AUB and E. WILLIAMS, of Cincinnati; S. M. BURNETT, of Washington; C. E. FITZGERALD, of Dublin; E. L. HOLMES and F. C. HOTZ, of Chicago; C. J. KIPP, of Newark; E. NETTLESHIP, of London; B. A. POPE, of New Orleans; JAS. A. SPALDING, of Portland, Me.; O. F. WADSWORTH, of Boston; Profs. J. ARNOLD and O. BECKER, of Heidelberg; Drs. R. BERLIN, of Stuttgart; OLE B. BULL, of Christiania; Profs. H. COHN and FÖRSTER, of Breslau; Drs. DANTONE, of Rome; GOLDZIEHER, of Buda-Pesth; C. G. HAASE, of Hamburg; Profs. v. HASNER, of Prague; J. HIRSCHBERG, of Berlin; HIRSCHMANN, of Charkow; Dr. C. HORTSMANN, of Berlin; Prof. v. JÆGER, of Vienna: Drs. KNIES, of Zurich; VAN DER LAAN, of Lisbon; Prof. LAQUEUR, of Strasburg; Dr. H. Magnus of Breslau; Prof. MANZ, of Freiburg; Drs. E. MARCKWORT and P. v. MITTELSTÄDT, of Antwerp; Prof. MAUTHNER, of Vienna; Geh. Rath. Dr. MOOREN, of Düseldorf; Prof. NAGEL, of Tübingen; Drs. A. Nieden, of Bochum; H. PAGENSTECHER, of Wiesbaden; Profs. PFLUEGER, of Bern; v. ROTHMUND, of Munich; SAEMISCH, of Bonn; SATTLER, of Erlangen; SCHMITT-RIMPLER, of Marburg; SCHNABEL, of Innsbruck; v. STELLWAG, of Vienna; Dr. J. STILLING, of Strasburg; Dr. DE WECKER, of Paris, and many others.

VOLUME XI.

NEW YORK

G. P. PUTNAM'S SONS, 27 & 29 WEST 23D STREET

WIESBADEN: J. F. BERGMANN's Verlag

LONDON: N. TRUEBNER & Co., 59 Ludgate Hill

PARIS: J. B. BAILLIÈRE, 19 Rue Hautefeuille

1882

GENERAL LIBRARY OF THE UNIVERSITY OF MICHIGAN

COPYRIGHT BY
G. P. PUTNAM'S SONS
1882

Press of
G. P. Putnam's Sons
New York

CONTENTS TO VOLUME XI.

NUMBER I.

1. On Croup of the Conjunctiva. With Remarks on the Treatment of the Contagious Forms of Conjunctival Inflammation. By Dr. H. Knapp 1
2. The Condition of the Eyes in Two Cases of Fatal Anæmia—An Anatomical Investigation. By Dr. Boerne Bettman, of Cincinnati. 12
3. A Case of Quinine Amaurosis Manifesting Itself Primarily in One Eye Only. By C. M. Hobby, M.D., Iowa City, Ia. . . . 34
4. Three Cases of Hydrophthalmus Treated with Iridectomy. By H. Derby, M.D., of Boston 37
5. Extraction of Foreign Bodies from the Iris. By J. L. Thompson, of Indianapolis, Ind. 41
6. Rupture of the Eyeball in its Posterior Hemisphere from a Blow in the Face. By Julian J. Chisolm, M.D., of Baltimore . . 44
7. Serious Effect of Calomel upon the Eye. By F. C. Hotz, M.D., of Chicago 49
8. Two Cases of Malignant Tumor of the Sphenoidal Cavities Implicating Vision. By Julian J. Chisolm, M.D., of Baltimore . 52
9. A Case of Severe Injury of the Orbit. By Dr. E. L. Holmes and Dr. Roswell Park 58
10. Tumor of Lachrymal Gland. By Joseph A. White, M.D. . . 62
11. Preliminary Paper on the Determination of a Standard of Color-Sense for Reflected Color by Daylight; with a Graphic Description of the Individual Limits and Average Results of Sixteen Cases. By Charles A. Oliver, M.D., of Philadelphia . . 65
12. A Case of Congenital Deformity of the Optic Disc. By Dr. Theodore Wiethe of Vienna. Translated by William C. Ayres, M.D., New York. (With plate I.) 70
13. Four American Text-Books on Ophthalmology. Reviewed by Swan M. Burnett, of Washington, D. C. 74
14. Systematic Report on the Progress of Ophthalmology during the Third Quarter of the Year 1881. By H. Magnus, Breslau; C. Horstmann, Berlin; and A. Nieden, Bochum; with the coöperation of E. Nettleship, London; C. E. Fitzgerald, Dublin; E. Marckwort and P. von Mittelstädt, Antwerp; Dantone, Rome; van der Laan, Lisbon; Hirschmann, Charkow; S. M. Burnett, Washington; Ole Bull and Schiötz, Christiania . . . 79

A.—General Ophthalmological Literature; General Pathology, Diagnosis, and Therapeutics; Normal Anatomy and Physiology. By H. Magnus, M.D. Text-books, monographs; treatises on general, bibliographical, and historical subjects, p. 79; Statistical papers, 84; Ophthalmological journals, 87; General pathology, diagnosis, and therapeutics, 90; Instruments and remedies, 96; Anatomy, 99; General physiology: Cornea, iris, refractive media, 102; Retina, optic nerve, central organs, muscles, 102; Color-perception, 104.

B.—Anomalies of Refraction and Accommodation, Lids, Lachrymal Apparatus, Muscles and Nerves, Orbit and Neighboring Cavities, Conjunctiva, Cornea, Sclerotic, and Anterior Chamber. By Dr. C. Horstmann. Translated by William C. Ayres, M.D. Refraction and accommodation, p. 109; Lids, 111; Lachrymal apparatus, 113; Muscles and nerves, 114; Orbit and neighboring cavities, 116; Conjunctiva, cornea, sclera, and anterior chamber, 119.

C.—Iris, Uveal Tract, Glaucoma, Sympathetic Ophthalmia, Refractive Media, (Lens and Vitreous Body), Retinal and Functional Disturbances, Optic Nerve, Injuries, Foreign Bodies (Parasites), Ocular Affections in Constitutional Diseases. By Dr. A. Nieden. Translated by Dr. F. E. D'Oench, New York. Iris and uveal tract, p. 126; Glaucoma, 130; Sympathetic ophthalmia, 134; Lens, 137; Vitreous body, 138; Retina and functional anomalies, 139; Optic nerve, 141; Injuries, foreign bodies (parasites), 142; Ocular affections in constitutional diseases, 144.

15. Miscellaneous Notes 148

NUMBER 2.

1. The Clinical Significance of the so-called Amyloid Tumors of the Conjunctiva, with a Report of Three New Cases. By Dr. Theodore Kubli, of Dorpat. Translated by James A. Spalding, M.D., Portland, Maine 149
2. Contributions to the Pathology of Sympathetic Eye Disease. By Dr. Fedor Krause. Translated by William C. Ayres, M.D., New York. (With a plate, tab. viii.) 173
3. A New Case of Pulsating Exophthalmus of Both Eyes. By Dr. A. Nieden, of Bochum. Translated by William C. Ayres, M.D., New York 185
4. Some Observations upon Tumors of the Eye. By Prof. E. Adamük, of Kasan, Russia. Translated by Dr. Porter Farley, of Rochester, N. Y. (With plate ii.) 190
5. Sympathetic Inflammation. By S. C. Ayres, M.D., Cincinnati . 199
6. Two Cases of Hemi-Achromatopsia. By Henry D. Noyes, M.D., New York. (With six wood-cuts.) 210
7. Foreign Bodies Tolerated in the Background of the Eye, with Preservation of Good Sight. By H. Knapp. (With two wood-cuts.) . 222
8. A Fragment of Steel Embedded in the Cornea for Two Years Without Causing Irritation. By H. Knapp 232
9. Extensive Ravages from Lupus, with Subsequent Cicatrization, Leaving but One Small Hole in the Face which Represents both Mouth and Nose, and with Complete Closure of the Anterior Nasal Orifices. By Julian J. Chisolm, of Baltimore. (With wood-cut.) . 234
10. An Obscure Case in Nerve Pathology Accompanying Optic Neuritis. By Julian J. Chisolm, M.D., of Baltimore, Md. 239
11. Systematic Report on the Progress of Ophthalmology during the Fourth Quarter of the Year 1881. By H. Magnus, Breslau; C. Horstmann, Berlin; and A. Nieden, Bochum; with the cooperation of E. Nettleship, London; C. E. Fitzgerald, Dublin; E. Marckwort and P. von Mittelstädt, Antwerp; Dantone, Rome; van der Laan, Lisbon; Hirschmann, Charkow; S. M. Burnett, Washington; Ole Bull and Schiötz, Christiania. Translated by Dr. F. E. D'Oench, of New York 243

A.—Dr. H. MAGNUS. Text-books, monographs, treatises on general bibliographical and historical subjects, 243; Statistical papers, 246; Ophthalmological journals, 247; General pathology, diagnosis, and therapeutics, 250; Instruments and remedies, 252; Anatomy, 254; General physiology: optics, cornea, iris, refractive media, 255; Retina, optic nerve, central organs, muscles, 257; Color-perception, 257.

B.—Dr. C. HORSTMANN. Anomalies of refraction and accommodation, 260; Lids, 261; Lachrymal apparatus, 262; Muscles and nerves, 262; Orbit and neighboring cavities, 263; Conjunctiva, cornea, sclera, 264.

C.—Dr. A. NIEDEN. Iris and uveal tract, 266; Glaucoma, 268; Sympathetic ophthalmia, 268; Lens, 268; Vitreous body, 270; Retina and functional disturbances, 270; Optic nerve, 273; Injuries, foreign bodies (parasites), 274; Ocular affections in constitutional diseases, 275.

12. Miscellaneous Notes 279

NUMBER 3.

1. Disturbances of Vision and Uterine Diseases. By Dr. Mooren, of Düsseldorf. Translated by William C. Ayres, M.D., New York . 281

2. On the Anatomical Alterations after Optico-Ciliary Neurotomy. By Dr. Fedor Krause. Translated by James A. Spalding, Portland, Me. (With plate v.) 309

3. Congenital Paralysis of the Sixth and Seventh Pairs of Cranial Nerves in an Adult. By Julian J. Chisolm, M. D., of Baltimore, Md. 323

4. Cataract-Extraction with Iridectomy in an Infant Six Months Old. By Julian J. Chisolm, M.D., of Baltimore, Md. 326

5. Long-Continued Presence of a Spiculum of Copper in the Cornea Without Exciting Apparent Irritation. By William Shaw Bowen, M.D., of Providence. R. I. 333

6. A Case of Blindness after Fracture of the Base of the Skull. By F. P. Capron, M.D., of Providence, R. I. 335

7. A Compound Dermoid Cyst of the Orbit. By Henry G. Cornwell, M.D., of Columbus, Ohio 338

8. On the Maturity of Cataract, its Artificial Ripening, Corelysis and Extraction of the Anterior Capsule. By Prof. R. Förster, M.D., of Breslau. Translated by J. A. Spalding, M.D., Portland, Me. 344

9. Systematic Report on the Progress of Ophthalmology during the First Quarter of the Year 1882. By H. Magnus, Breslau; C. Horstmann, Berlin; and A. Nieden, Bochum; with the co-operation of E. Nettleship, London; C. E. Fitzgerald, Dublin; E. Marckwort and P. von Mittelstädt, Antwerp; Dantone, Rome; van der Laan, Lisbon; Hirschmann, Charkow; S. M. Burnett, Washington; Ole Bull and Schiötz, Christiania. Translated by Dr. F. E. D'Oench, of New York 360

A.—Dr. H. MAGNUS. Text-books, monographs, treatises on general bibliographical, and historical subjects, 360; Statistical papers, 361; Ophthalmological journals, 363; General pathology, diagnosis, and therapeutics, 366; Instruments and remedies, 370; Anatomy, 371; General Physiology: optics, cornea, iris, refractive media, 372; Retina, optic nerve, central organs, accommodation muscles, 375; Perception of colors, 376.

B.—Dr. C. HORSTMANN. Anomalies of refraction and accommodation, 377; Lids, 378; Lachrymal apparatus, 380; Muscles and nerves, 380; Orbit and neighboring cavities, 382; Conjunctiva, cornea, sclerotic, 383.

C.—Dr. A. NIEDEN. Iris and uveal tract, 388; Glaucoma, 389; Sympathetic ophthalmia, 391; Lens, 391; Vitreous body, 393; Retina and functional disturbances, 393; Optic nerve, 397; Injuries, foreign bodies (parasites), 398; Ocular affections in constitutional diseases, 400.

10. Short Report on the 18th Annual Meeting of the American Ophthalmological Society, held at Lake George on July 26 and 27, 1882. By H. Knapp 403
11. Miscellaneous Notes 406

NUMBER 4.

1. Tuberculosis of the Iris. By Dr. H. Rüter, of Berlin. Translated by Dr. Porter Farley, of Rochester, N. Y. (With two wood-cuts.) 407
2. Eye-Diseases from Masturbation. By Prof. Hermann Cohn, of Breslau. Translated by Dr. R. O. Born, of New York . . 428
3. Remarks on 177 Operations for Entropium and Trichiasis. By F. C. Hotz, M.D., Chicago, Ill. 442
4. Observations on Detachment of the Retina. By Prof. C. Schweigger, M.D., Berlin. Translated by Rosa Welt, M.D., New York, Clinical Assistant to the N. Y. Ophthalmic and Aural Institute . 451
5. Syphilitic Gumma of the Sclera. By J. A. Andrews, M.D., of New York. (With a wood-cut.) 458
6. A Case of Coloboma of the Choroid at the Macula Lutea, Unaccompanied by Coloboma of the Iris. By Swan M. Burnett, M.D., Washington, D. C. (With a wood-cut.) 461
7. A Case of Congenital Irideremia. By H. B. Young, M.D., Burlington, Iowa 465
8. Amyloid Degeneration of the Eyelids. By Prof. E. Rählmann, M.D., of Dorpat, Russia. Translated by H. Knapp. With plate vi, figs. 1–6.) 466
9. The Blood Circulation in the Region of the Yellow Spot. By Wm. C. Ayres, M.D., New York. (With a wood-cut.) 476
10. Report on the 14th Meeting of the Ophthalmological Society at Heidelberg, Sept. 14–16. By Dr. A. Nieden, Bochum. Translated by Dr. F. E. D'Oench and others 482
11. Systematic Report on the Progress of Ophthalmology during the Second Quarter of the Year 1882. By H. Magnus, Breslau; C. Hortsmann, Berlin; and A. Nieden, Bochum; with the coöperation of E. Nettleship, London; C. E. Fitzgerald, Dublin; E. Markwort and P. von Mittelstädt, Antwerp; Dantone, Rome; van der Laan, Lisbon; Hirschmann, Charkow; S. M. Burnett, Washington; Ole Dull and Schiötz, Christiania 490

A.—Dr. Magnus. Text-books, monographs, treatises on general, bibliographical, and historical subjects, 490; Statistical papers, 492; General pathology and diagnosis, 495; Therapeutics, 497; New instruments, 499; Remedies, 500; General anatomy, 500; Retina, 503; Optic nerve, 504; Lens and vitreous, 506; Comparative anatomy, 507; General physiology, 508; Accommodation, 511; Color-perception, 512.

12. Miscellaneous Notes 516

ARCHIVES OF OPHTHALMOLOGY.

ON CROUP OF THE CONJUNCTIVA,

WITH REMARKS ON THE TREATMENT OF THE CONTAGIOUS FORMS OF CONJUNCTIVAL INFLAMMATION.*

By Dr. H. KNAPP, of New York.

THE observation of so-called extreme cases is sometimes required to throw our mind away from the track of familiar views into new channels of thinking. We then recognize the significance of certain manifestations, which we failed to appreciate so long as we noticed them only in low degrees of development. Such an extreme case from the common group of muco-purulent conjunctivitis, came under my care lately, and forced me to change my opinion on that kind of inflammation which several authors have described as croupous or membranous conjunctivitis. The case, briefly related, was as follows.

A boy, David Hanifin, 9 years old, was brought to my clinic from the St. Stephen's Home in New York on October 9, 1881. The nurse stated that, four weeks previously, he had caught the ophthalmia from which many of the children suffered. He had daily grown worse, and since one eye had become blind and the other had been affected soon after the first and in like manner, the sisters were afraid he might lose both eyes. They begged me to admit him to the hospital.

On examination I found the lids of both eyes red, lustrous, swollen, soft, not particularly painful to the touch; the palpebral conjunctiva of both eyes was swollen and covered with thick, coherent, white membranes, which were difficult to wipe away with a

* Read, in part, before the New York State Medical Society, Feb. 8, 1882.

sponge, leaving an uneven, dark-red, bleeding surface. The cornea of the right eye was absent and the defect filled up by the same kind of membrane, which, however, could not be wiped off. The cornea of the other eye was intact. There was a thin, puriform discharge, moderate in quantity. The boy's general health was good. I demonstrated the case to the students as a mild form of ophthalmo-blennorrhœa with well-marked membranous deposits, a typical specimen of what Arlt and some others had called croupous conjunctivitis. Such deposits, I remarked, were not uncommon in acute catarrhal and also in milder cases of purulent conjunctivitis, and that there was very little danger of corneal ulceration. The destruction of the right cornea in this case was peculiar and probably accidental, the boy stating that a week after the onset of the disease he had fallen with this eye against a stove. Our hospital at that time being filled with operative patients, we had neither the space to admit the little patient, nor could we spare the nurses to attend to him properly. I therefore told his nurse to take him back, apply iced compresses to his eyes day and night, and cleanse the eyes every half hour.

Under this treatment the case remained materially unchanged for ten weeks. The substance replacing the right cornea grew into a mushroom-like tumor, which I removed with scissors. It proved to be a granuloma of the iris, covered with a dense croupous membrane. The boy was brought to the clinic twice or three times a week; the detached membranes were replaced by others in a very short time, almost under our eyes; the next day they always were as thick as on the day previous. Careful tentative touching with a one-per-cent. solution of nitrate of silver, or with the sulphate of copper crystal, only aggravated the disease, as I was afraid it would. Resorcin, boracic acid, chlorate of potash, and carbonate of soda, which were brushed into the eye, showed no influence whatever on the morbid process.

Toward Christmas the formations of the membranes appeared diminished and the inflammation on the decline, the left cornea all the time having been perfectly intact. On Jan. 4th, however, after an absence of two weeks, the boy was brought again with the inflammation as intense as ever before, the centre of the left cornea with a dense white infiltration of five millimetres in diameter, the remainder of the cornea dull, the iris congested, no pupil visible, and sight reduced to perception of light. Atropia did not dilate the pupil. Now I took the poor boy to the hospital, where iced

compresses were applied to his lids day and night, the lids carefully cleansed every half hour, atropia instilled several times daily, and the membranes wiped off every day. The retro-tarsal folds were swollen, and had polypoid excrescences, which were cut off. The pain and burning in the eyes were at once relieved, the discharge diminished, and from the third day the periphery of the cornea began to clear up and the infiltration to absorb. The membranes became thinner, were more easily removed; soon they broke to pieces, reproduced themselves only in separate patches, and in three weeks had disappeared altogether. The discharge also lessened in proportion as the membranes diminished. In two weeks the pupil began to dilate, and having then become larger than the steadily contracting infiltrations of the cornea, the boy began to see again. When the formation of the membranes had ceased, the iced compresses were applied only an hour every morning, noon, and evening. The ocular conjunctiva had never shown any deposits. The palpebral conjunctiva, after the disappearance of the membranes, was still swollen, dark-red, and uneven, showing the condition which has been, improperly, described as papillary trachoma. Daily touchings with bluestone now had a good effect, and when I left New York, Feb. 6th, the lids were only moderately rough, the cornea had a small superficial opacity in its centre, the pupil was moderately dilated by atropia, and the vision about $\frac{20}{100}$. Another granuloma of the iris, this time free from croupous membranes, had formed in the right eye and was cut off; that eye is atrophic, but the other saved, as the disease is virtually over.[1]

Besides this case I have seen only one other of equal gravity, in a boy of five years. There the disease also started in the right eye, but soon led to so high a degree of swelling of the palpebral conjunctivæ (which by their uneven and crevassed surfaces had the appearance of cauliflower excrescences), the muco-purulent discharge was so moderate, the ocular conjunctiva and cornea being unaffected, that I disregarded the importance of the croupous membranes and considered the disease as a proliferating form of muco-purulent inflammation of the conjunctiva palpebralis. The usual remedies, astringents, a one- or two-per-cent. solution of nitrate of silver, touching with the sulphate of copper crystal, were of no benefit whatever; the membranes,

[1] Its sight to-day, March 1st, is $\frac{20}{70}$, the cornea having cleared up in an unexpected degree. K.

detached one day, were reproduced in equal density the day after. The cauliflower excrescences became very large and had a fungoid appearance. Supposing that they were granulation tissue I destroyed them with the nitrate-of-silver stick as thoroughly as Hebra used to destroy lupus nodules. The next day the eschar was cast off and replaced by the same dense croupous membrane which always had been there before. I treated the boy as a dispensary patient with mild astringents and cold applications to be made several hours during the day. After this had gone on for 3 or 4 months, during which I had repeatedly cut off polypoid excrescences of the retro-tarsal fold, the boy discontinued attendance for a few weeks, but then came back with his right cornea completely destroyed. I took him to the hospital, treated him like a case of blennorrhœa with uninterrupted cold applications; in a few weeks the formation of the membranes ceased, and the left eye, which had had the same affection, though in a less degree, was saved.

Mild cases of this affection, gentlemen, are not infrequent. They begin under the form of acute catarrh or moderate blennorrhœa, but soon are distinguished by the formation of thin whitish membranes covering the palpebral portions of the conjunctiva. Under the ordinary treatment of astringents, cold applications, and careful cleansing they get well in from three to six weeks. Having seen so frequently that the membranes had no appreciable influence either on the gravity or the course of the disease, I did not consider them as an essential feature of the disease, and classified the cases mostly as acute catarrh, sometimes, when the discharge was more puriform than mucoid, as acute blennorrhœa.

C. S. BULL, in the third American edition of Soelberg-Wells' text-book, devotes fifteen lines to croupous conjunctivitis, in which he says: "This form has been regarded by some English and Continental authorities as a distinct variety of conjunctivitis, but there seems good reason to doubt this. * * * The treatment consists in stripping off the membrane and cauterizing the surface as in catarrhal or purulent conjunctivitis." H. D. NOYES,

in his recent treatise on the diseases of the eye (Wood's Standard Med. Library, 1881), devotes 1½ page to "*Croupous, or diphtheritic conjunctivitis*" (p. 168). Though he describes croup and diphtheria under the same title, he points out the principal distinction between the two forms of exudation, but also regards the croupous membrane as an unessential feature of muco-purulent ophthalmia.

I have changed my opinion on this subject and concur with *Arlt*,[1] *Stellwag*,[2] *Saemisch*,[3] and *Wecker*[4] who, especially Saemisch, give clear descriptions of the disease, and state that we have to consider croup as a distinct form of conjunctival inflammation. It differs from catarrh, blennorrhœa, and trachoma by the presence of the characteristic whitish membranes, and from diphtheria by several points which I beg leave specially to mention:

1. In diphtheria the lids are very stiff and hard; it is difficult or impossible to evert them; in croup the lids are supple and soft, and can be easily everted.

2. The diphtheritic lid is unusually hot and painful to the touch, whereas the croupous lid can be handled without causing much pain.

3. The diphtheritic exudations are continuous from the deposit on the surface through the superficial and deeper layers of the conjunctiva, whereas the croupous exudation is a surface deposit only.

4. The diphtheritic membrane cannot easily be removed but must be torn off with some force, leaving the subjacent tissue pale and ragged, whereas the croupous membrane can be wiped off as a whole, leaving the subjacent tissue dark-red, bleeding, and uneven—finely nodular.

5. The tissue of the diphtheritic lid when cut into is anæmic and has, in the developed cases, a white, lardaceous appearance, whereas the tissue of the croupous lid is highly congested and soft.

6. The diphtheritic process leads to mortification of the

[1] Text-book, 1st edit., 1851, p. 85, and his new text-book, Klinische Darstellung der Krankheiten des Auges, 1881, pp. 16–19.

[2] Text-book, 4th edition, 1870, p. 423.

[3] Graefe-Saemich's Handbuch. Vol. iv, No. 1, pp. 94-101.

[4] Wecker-Landolt, Traité Complet d' Ophthalmol., 1878. Tome 1, p. 320.

invaded conjunctiva, the croupous process to proliferation and cauliflower or polypoid excrescences.

7. Diphtheria readily extends from the lids to the bulbar conjunctiva and the cornea, whereas croup is long limited to the lids, and only in the severest cases affects the cornea, and seems always to leave the scleral conjunctiva free.

Let me now trace a *short sketch* of the disease under consideration.

Croupous conjunctivitis begins with the symptoms of an acute catarrh or mild blennorrhœa, but soon characterizes itself by the deposition of whitish membranes on the retrotarsal folds of both lids, extending toward the fornix of the conjunctiva and the free edge of the lids as far as the so-called papillary body is found. The membranes consist of coagulated fibrine enclosing lymphoid cells in varying quantities. They may cover the palpebral conjunctiva in patches only, or as continuous layers of 0.1 *mm.* to 1.5 *mm.* in thickness. They can be more or less easily wiped off, and are quickly reproduced. The surface from which they are detached is dark-red, easily bleeding, uneven, not ulcerous, but finely granular. The lid is moderately swollen, not very sensitive, and can be everted without much difficulty or pain. The discharge is sero-mucous, or sero-puriform, and moderate. The progress of the disease is marked by the uneven swelling of the papillary body passing over into proliferation, with the production of smaller and larger cauliflower and polypoid excrescences. The pseudo-membranes cover all these productions, dip into the depressions and crevasses of the proliferous conjunctiva, and cannot be detached without lacerating and tearing off portions of the conjunctiva, thus causing effusion of blood, which shows a high degree of coagulability. Croup, in contradistinction to diphtheria, seems never to affect the scleral conjunctiva, and only exceptionally the cornea, there producing ulcers. These ulcers may be superficial and disappear in a short time, or become more extensive, occupy and destroy the whole cornea. From their whitish aspect and firm, even surface, which is rather raised than depressed, I am inclined to believe that they

also are covered with a croupous deposit. Even in that stage they are capable of restitution, leaving an unexpectedly small corneal patch when compared with their former size and intense milky opacity. They are complicated with consecutive plastic iritis, which may get well without adhesions or pupillary obstruction.

Course.—The milder forms of the disease are not infrequent, the severe ones very rare. The characteristic croupous stage seems to follow the catarrhal initial symptoms in a few days, may last for one or several weeks, or from two to six months. When the membranes disappear, they get softer, thinner, and brittle; the discharge then is mucopurulent, but still moderate when compared with genuine blennorrhœa.

The *nature* of the disease consists in swelling and proliferation of the papillary body of the conjunctiva, and the formation of fibrinous pseudo-membranes, which are interspersed with lymphoid cells and deposited on the surface, without infiltrating the tissues of the lid.

Its *causes* are those of catarrh and blennorrhœa. The disease is contagious and mostly affects both eyes. A constitutional predisposition may, perhaps, be admitted, as the catarrho-blennorrhoic conjunctivitis which in asylums goes from one inmate to the other, only in a few assumes the croupous character. Croupous conjunctivitis, like pharyngolaryngeal croup, is prevalently a disease of childhood. Some patients have croup of the eye and throat simultaneously.

The *prognosis* on the whole is favorable, the disease showing no marked tendency to affect the cornea, and, unlike diphtheria, leading to no gangrene of the parts affected.

As to the *treatment* I can only concur with Arlt and Saemisch, in advising to abstain from all kinds of irritant medication as long as the formation of the pseudo-membranes is still active. Uninterrupted application, day and night, of iced compresses to the lids, and careful washing away of the secretion with a soft sponge, dipped in a very weak solution of chloride of sodium, chlorate of potash, and the like, should be enforced so long as the inflammation is progressing or at its height. As soon as the swelling decreases and

the membranes break off, the cold applications may be limited to an hour every morning, noon, and evening, and gradually left off. Weak solutions of nitrate of silver then seem to be the best remedy, also mild touching with the sulphate of copper crystal acts beneficially. Saemisch thinks that in a few mild cases he has cut short the progress of the disease by dusting powder of sulphate of quinine on the affected conjunctiva. I have no experience on the use of quinine in this manner, and Saemisch himself warns us not to use it in severer cases, lest the powder, acting as a foreign body, stimulate the inflammation.

Mr. President, I beg to take this opportunity for making some remarks on the utility of methodical applications of cold in the severer forms of conjunctivitis and on the general management of these affections. They are all contagious, yet not in such a manner that an infection through micro-organisms or other substances floating in the air need be feared. Practically the disease is transmitted only by inoculation. Under proper care, the most virulent gonnorrhœal or diphtheritic inflammation of one eye is never transmitted to the fellow eye, even if left open, a fact of which I have convinced myself by hundreds of cases treated in hospital or private practice. Under proper care? What is proper care? Gentlemen, proper care is two skilled and trusty nurses, the one for the day, the other for the night, who never leave the patient; further, a rational physician who is not too meddlesome a therapeutist. I speak now of ophthalmia neonatorum, blennorrhoic or gonnorrhoic ophthalmia of the adult, of croupous and of diphtheritic ophthalmia, also of the acute stage or acute paroxysms of trachoma. The treatment of all these cases is the same, and amounts to this: *so long as the disease is on the increase or at its height—abstinence from all but indifferent local remedies, methodical and uninterrupted application of cold, and careful cleansing; in the stage of decline—the same treatment in a milder form; in torpid and protracted cases—astringents or mild caustics.*

The infant of three days and over, who has blennorrhœa, should have cold applications day and night by means of thin iced compresses which cover no more than his burning eyelids. Every fifteen to thirty minutes the lids should be gently separated and the secretion carefully washed out with a fine soft sponge, dipped in a very weak solution of common salt, chlorate of potash, and the like. Several sponges should always be at hand, kept in an abundance of pure water, so as to keep them perfectly clean. Gentlemen, there is no cleansing material equal in softness and efficiency to fine sponges. To see that they are free from infection is our business, and a very easy business it is, for among all the disinfectants there is one which unshaken has stood the test of time: abundance of water. There is no contagium that is not made harmless by sufficient dilution; contagia can all be drowned. As soon as the little sufferer shows the least tendency to open his eyes, he should be encouraged in his endeavors. Darken the room moderately, so that the influence of bright light does not make him shrink. The opening of the eye is beneficial in two ways: 1st., the movements of the lids beat the corrosive secretion out of the conjunctival sac; 2dly, they accelerate the circulation in the affected parts, thus diminishing congestion, stasis, and infiltration. We know that the venous circulation in the extremities of our body is materially favored, I mean mechanically assisted, by muscular action. When a child opens his eyes, the danger is over; only a relapse must not be allowed to occur. The iced applications have to be continued, until the swelling of the lids and the creamy character of the discharge have disappeared. Gentlemen, no child need lose its eyes from ophthalmia neonati, and no child does, if faithfully treated in the way just described. I unhesitatingly commit myself to this assertion, since the cases over which I had full control, terminated favorably, and they count, not by the dozen or hundred, but by the thousand. Other modes of treatment may be good—and there is no doubt that certain eyes escape destruction under all kinds of treatment—but the one pointed out is capable of saving them all, and only in

order not to be absolute I admit the restriction of saying, "almost all." But, gentlemen, great and incessant care is needed. Prophylactic measures, such as cleansing the vagina before and during delivery, and washing the child's eye with weak, so-called antiseptic solutions, of which nitrate of silver $\frac{1}{10} - \frac{1}{8}$ per cent. is the best, may be useful, and need only be mentioned.

I cannot speak with the same satisfaction of the results of the treatment of gonorrhoic ophthalmia in adults, though the same plan of treatment, pursued with the same rigorousness and persistency, saves, as far as my experience goes, the great majority of cases. Slitting of the outer commissure, if there be great tension, is beneficial, but can almost always be avoided, since the cold keeps the swelling down. The proposition of Critchett, of London, to divide the upper lid in its centre, in order to save the cornea from destruction, need certainly not be adopted.

What good the application of cold may do in *croupous ophthalmia*, is exemplified by the two cases reported at the beginning of this paper.

In *diphtheria* of the conjunctiva I know of no more important remedy than the energetic and persistent application of cold. I cannot countenance the proposition of Mooren and Berlin, by warm applications to abridge the true diphtheritic stage and lead the process more quickly over into the less dangerous blennorrhoic stage, since I am convinced that nothing is so powerful in diminishing the violence of this dreadful inflammation as cold, and I am afraid that warmth may temporarily increase it and favor destruction of the cornea. I have to differ from the statement of Dr. Noyes and others that diphtheria of the conjunctiva is a very rare disease in New York. My former assistant, Dr. Born, has taken notes of over 70 well-marked cases during the three years that he was house-surgeon at the Ophthalmic and Aural Institute. The great majority of those cases, as well as others in my private practice, were cured under the above plan of treatment, persistently carried out.

What good the same plan, though less rigorous, may do in severe cases of *trachoma*, few persons who have not wit-

nessed it would believe. A patient may go for months and even years to the dispensary, and there show the usual alternation of better and worse, till a new crop of granulations, or blindness from corneal opacity, compels him to enter the hospital. He is treated with iced compresses several hours during the day, is directed to dip his face into cold water, and is admonished by every moral effort, assisted, if necessary, by mechanical appliances, to hold his eyelids open as much as possible; his lids are touched with the sulphate of copper crystal, and the improvement in most cases is very marked, not to say astonishing. In the course of three or four months I have seen trachomatous lids restored to a healthy condition with scarcely perceptible cicatrices, and a trachomatous cornea through which fingers could not be counted, so much clear up that fine type could be read.

Gentlemen, what I have said is only a sketch, and, if I did not trespass on your time and indulgence, I would fain say more, for I am deeply impressed with the fact that among all questions in ophthalmogy—that of cataract perhaps excepted—there is none so important as the treatment of contagious ophthalmia.

THE CONDITION OF THE EYES IN TWO CASES OF FATAL ANÆMIA—AN ANATOMICAL INVESTIGATION.*

By Dr. BOERNE BETTMAN, of Cincinnati.

THE progressive pernicious anæmia, first described (1869[1]) under this name by Biermer, must, notwithstanding the thorough clinical and anatomical researches which have since then been published, be still considered as a new and in certain respects as an unexplained picture of disease. Several clinical phenomena especially, which appear in the fundus of the eye, have received, from an anatomical standpoint, various and often contradictory interpretations. These reasons induced me to subject four eyes, which were kindly placed at my disposal by Prof. Becker, and which were taken from two cases of anæmia with fatal termination, to a more minute examination.

These investigations could be carried out more conscientiously and more accurately since all technical difficulties were overcome by the use of Calberla's mass modified by Ruge, and Thoma's sliding microtome. With these means I succeeded in laying numerous serial sections, of which the thickest had a diameter of $\frac{1}{80}$ *mm.*, through the posterior segment of a half eyeball. The results of my investigations offer some points of interest, and serve as corroborations and enlargement of several appearances already explained; their communication may therefore appear justifiable.

* Made at the Pathological Institute of the University of Heidelberg.

[1] Eichhorst, Tagl. der 42. Versamml. Deutsch. Naturforscher und Aerzte in Dresden, 1868, No. 8, Sect. ix, p. 173.

The first case, of which the clinical history was kindly placed at my command by Prof. Friedreich, concerns a woman.

Bertha Fritz, aged 37, of Schriesheim, was admitted to the medical wards on June 14, 1880, with the diagnosis: pernicious anæmia. Before proceeding to the examination of the eyes, some remarks pertaining to the condition of the blood during the first and last examination may prove interesting. On the day of admission there were found in 1 *ccm.* blood

1,298,600 red blood corpuscles.
5,300 white " "

R. : W. = 243:1

During every examination of the blood very many poicilocytes and numerous microcytes were found.

On July 16th the patient felt somewhat better. As no essential objective changes could be discovered she was dismissed, in compliance with her wish, but owing to an exacerbation of the affection, was readmitted on Aug. 18th.

The patient was now repeatedly examined, the blood appearing already macroscopically thin and of a pale color. Poicilocytes were found in great numbers, also many microcytes. Altogether a considerable decrease of the red corpuscles could be determined even without counting; no approximation of the blood corpuscles so as to represent rolls of coin; the white corpuscles did not appear to be increased.

At the last examination, taken on July 21st, 1 *ccm.* of blood contained

1,164,200 red corpuscles, and
4,800 white blood corpuscles.

The œdema in various parts of the body and the vomiting, symptoms which had appeared now and then during the first half of her abode in the hospital, increased in frequency, as did the other symptoms (dulness of the sensorium, a feeling of decrepitude, sense of weakness), during the latter part of her stay. Death ensued on Aug. 25th.

Condition of the eyes.—As assistant of the eye clinic, I had frequent opportunities to examine the patient, and did so for the first time on June 20th.

The patient did not complain of any disturbance of sight. An ophthalmoscopic examination showed the following conditions: Both papillæ were pale, the difference in the breadth of the vessels and in their color (bright red) was so slight, that I was enabled only after continued observation to distinguish the two circulatory systems, one from the other. The whole fundus appeared already at that time of a lighter color and paler than in the normal condition. A marked venous pulsation was observed on the papilla. On the 10th July a slight œdema of the lower lid and of the conjunctiva palpebræ, associated with an increased secretion of tears, made its appearance. These symptoms disappeared gradually, and were no longer noticeable on the 15th July. During this time the patient had complained of slight disturbances of vision, veiled sight. On examination the following conditions were noted: S $\frac{6}{24}$ —. E. J. No. 1. Lids of both eyes normal. Conjunctiva palp. strikingly pale. No œdema. Oc. d. Pupil dilated (homatropin). Ophth. appearance: Media of both eyes perfectly clear. Oc. d. Papilla very pale and somewhat obscured. The cloudiness spread over the whole retina, diminishing in intensity toward the periphery. Course of the veins tolerably normal. Difference in the color and breadth of the vessels same as in the foregoing examination. Many small retinal hemorrhages of various forms and sizes were visible between papilla and macula; some showed yellowish white centres.

Oc. sin. All the pathological appearances noticeable in the right eye were, with the exception of retinal cloudiness and hemorrhages, also found in this eye. The pulsation of the vein, which restricted itself to the papilla, could again be recognized, on this side only. Both eyes exhibited deep physiological excavations.

This examination took place on the day before the patient's discharge. After the second admission I examined her twice, and in fact shortly before her death. On the 28th, two days before the fatal issue, ophthalmoscopic examination by dilated pupil showed the following appearances:

In the right eye the majority of the hemorrhages between papilla and macula had disappeared, only a few with dot-like bright centres were visible in the neighborhood of the papilla. Small, ribbon-shaped hemorrhages, which had not existed at the time of the former examination, were now to be seen at the posterior pole of the eye, generally along a vessel; still no connection

of the hemorrhage with either of the systems of blood-vessels could be determined. The paleness of the papilla and cloudiness of the retina had increased. Oc. sin. The fundus oculi showed, with the exception of a slight cloudiness and a few punctiform hemorrhages, no essential changes. The venous pulsation on the papilla was apparent during this examination also.

On August 24th, the day before death, entirely different conditions were observed in the left eye. The patient was so weak that she could not hold up her head. My examination was therefore connected with difficulties, but I was enabled, notwithstanding the necessarily hasty observations, to discern near the macula and papilla bright-red, band-like, also round extravasations of blood. The other appearances had undergone no real alterations. The right eye showed the same conditions as on August 23d.

Since the hemorrhages in the left eye appeared on August 23d, as punctiform ecchymoses and 20-24 hours afterward as ribbon-shaped hemorrhages, one might be inclined to bring them into close connection with the powerful acts of vomiting which occurred during the last few days of her life.[1]

The anatomical diagnosis, extracted from the records of the Pathological Institute, reads as follows: "General anæmia of the organs, parenchymatous hepatitis, fatty degeneration of the muscles of the heart, catarrh of the stomach and intestines, red degeneration of the marrow of the bones."

Macroscopic condition. The eyes, which were perfectly normal as regards their form and size, were divided horizontally, after having been sufficiently hardened in Müller's fluid.

All the ocular tunics were well preserved, and presented, with the exclusion of the retina, normal conditions. In the fundus of both eyes only a few hemorrhages of different forms and sizes were to be seen. After pieces of the retina, which were to serve as teasing preparations, had been removed from one half of each eye, both halves were imbedded in Ruge's mass.

Microscopic examination. Oc. sin. The stump of the optic nerve, together with its enveloping membranes, was entirely normal. A serous transudation, which had accumulated in a great measure directly around the blood-vessels, pervaded the tissues of the papilla and the adjacent parts of the retina. This

[1] On August 19th patient had vomited several times; on the 20th, 9 times; on the 21st and 22d, once; not at all on the 23d; on the 24th, the day upon which the pronounced hemorrhages in the left eye were noticed, twice.

œdematous transudation was met with mostly in the inner (facing the vitreous) layers of the papilla. The central parts showed less participation, whilst that portion of the optic nerve within the choroidal ring and the surrounding parts remained perfectly unchanged. The nerve bundles and fibres were forced apart and partially macerated, thus producing larger and smaller cavities, some of which were empty, others filled with a finely granulated mass (transudation fluid coagulated by the preserving liquid) and with blood corpuscles scattered throughout the optic papilla. The sheathless nerves (axis-fibres) presented in different parts a slight degree of swelling; they presented partly a more uniform thickening, partly spindle-shaped varicosities of homogeneous appearance and of a faint, whitish lustre. These changes were very distinct at the margin of the papilla and could be traced for some distance into the retinal tissue.

The spaces between the supporting fibres, in the nerve-fibre layer, were enlarged near the papilla, and the fibres themselves greatly swollen; these changes were especially prominent in cross-sections of the fibres.

The nerve fibres and connective-tissue framework in the periphery of the retina showed not the slightest alterations.

The band-like and round sanguineous exudations, in the posterior pole of the eye, had their seat in the nerve-fibre and inner granular layers. The hemorrhages were well preserved, not the slightest trace of a retrograde metamorphosis being visible; a sign of their recent origin. Reference to the clinical history will show that these exudations occurred only 24–48 hours before death.

The hemorrhages were of very small size; thus, one of the largest, about 5 *mm.* to the inner side of the margin of the papilla, measured in its long diameter 0.408 *mm.* The changes in this part of the retina were quite interesting; the matter in question being a rupture of the membrana limitans externa.

The middle and external retinal layers were bulged outward, toward the chorioidea, and came gradually to a point, resembling thereby a section of a funnel, the deepest part of which corresponded to the perforated apex, whilst the base coincided with the inner border of the granular layer.

The nerve-fibre and ganglion-cell layers were but slightly arched and almost entirely free from blood corpuscles. The inner granular layer, owing to the hemorrhage which forced the granules apart, had increased quite materially in thickness from

0.0512 *mm.* to 0.0816 *mm.* The outer retinal layers were partly detached from the middle layers and forced into the torn perforation. The rods and cones were destroyed ; the ends of the torn limitans were directed outward, parallel to the axis of the funnel, and appeared at least as bright lines without an outer lining. The thickness of the retina in the axis of the funnel was 0.30612 *mm.;* the ends of the torn limitans had been separated by the wedged-in granules and blood corpuscles, to an extent of 0.0375 *mm.* Between retina and choroid I found small aggregations of red blood corpuscles ; many of these were carried by the imbedding mass, which made its way between the tissues, to a place distant from the torn limitans. The point of interest attached to this condition is the causation of the rupture by so small an accumulation of blood, this state of affairs being generally brought about by an extensive hemorrhage only.[1]

In preparations of the other eye I noticed quite often that the hemorrhages reached the outer limitans, bulging it outward. The rupture of the limitans in the above-described preparations may also have been caused by the severe spells of vomiting. Other structural changes were not observed. The rods and cones, excepting at the above-mentioned locality, were well preserved ; pigment granules of the retinal pigment epithelium adhered to their external segments ; the retinal epithelium was connected with the choroid throughout its whole extent.

The retinal blood-vessels contained perhaps somewhat more blood than in the normal condition ; neither fatty degeneration nor other pathological changes could be recognized in their sharply defined walls ; neither did teasing preparations show any changes.

The choroid was connected to the sclerotic throughout its whole extent ; from the retina it was separated by the imbedding mass. The walls of the choroidal vessels exhibited no alterations. In surface preparations of the chorio-capillaris the vessels were turgid with blood. The blood corpuscles heaped themselves up in the spindle-shaped dilatations of the capillaries described by Sattler. The contour of the capillary walls was well defined ; nowhere (the dilatations were particularly examined) could I find a separation of continuity or any other pathological change. Com-

[1] Quincke found in one case (*Deutsches Archiv für klinische Medicin*, 1878) hemorrhages the size of a pin-head between choroid and retina, bulging the latter tissue inward, but he does not mention whether the hemorrhages came from the retina or choroid.

parison with normal preparations showed that the dilatations had increased somewhat in size. The contents of the blood-vessels consisted of all those peculiar forms of blood corpuscles found in pernicious anæmia,—abnormally large blood corpuscles, small globular bodies, so-called microcytes, blood corpuscles with and without a central depression, many of a biscuit form, others kidney-shaped, many with prolongations, and others of an extremely irregular form, as was already observed during life. Many white blood corpuscles, tinged dark blue by hæmatoxylin, were also noticed. The diameter of the largest red blood corpuscle measured 0.0095 *mm.*, only several of the white corpuscles exceeded the normal in size; the sclera was perfectly normal.

Oc. dex.—The optic nerve and its sheaths offered but slight pathological changes. The papilla showed, only in a few preparations, at its margin, slight alterations to be attributed to serous transudation.

Beyond the papillary margin the changes described in the first eye as dependent upon œdema of the nerve-fibre layer were quite marked.

These changes—enlargement of the spaces between the radial fibres, swelling of the connective tissue framework, accumulation of a finely granulated mass between the nerve fibres—had become in one locality of the retina so extensive, that they took upon themselves the character of a pronounced œdema of the retina, as described by Ivanoff (*Gr. Arch.*, Bd. xv, 2). Many small and large spaces, separated by the radial fibres, existed in the nerve-fibre layer; other larger oval ones, elongated in the direction of the thickness of the retina, lying next to each other, separated only by the hypertrophied radial fibres, occupied the intergranular and part of the inner and outer granular layers.

The ganglion cells and the molecular layer took part in the formation of the lower spaces. The thickness of the retina in the above-mentioned place amounted to 0.188 *mm.;* a normal part of the retina in the immediate neighborhood measured 0.109 *mm.* The majority of the spaces were empty, many contained a finely granulated mass.

The other changes which interest us particularly are the hemorrhages and the hypertrophied varicose nerve fibres described by Heinr. Müller. The sharply-defined hemorrhages had their seat most often in the nerve fibre and inner granular layers, less often in the ganglion-cell layer, and but seldom in the molecular and

outer nerve-fibre layers. Uthoff[1] found the hemorrhages most frequently in the nerve-fibre and intergranular layers, less often in the ganglion-cell layer; the granular layers were but seldom invaded. The relation of the hemorrhages to the various layers of the retina were, numerically expressed, as 9:2:1:8:2:1:2, the numbers corresponding to the various retinal layers, the first number to the inner, the sixth to the outer nerve-fibre layer.

In the nerve-fibre layer the hemorrhages followed the course of the nerves and larger blood-vessels, obtaining thereby a more ribbon-like shape, whilst in the remaining layers the blood-corpuscles forced a path along Müller's fibres, assuming a round or more irregular form. Above the papilla, between the same and the macula, small hemorrhagic infiltrations were found, which were composed only of red blood corpuscles, and showed in their centre no changes which might tend to explain the white spots seen with the ophthalmoscope. I am sorry to state that many of my sections through the upper half of this eye were lost; they no doubt contained the hemorrhages in question.[2]

The varicose nerve fibres were situated in the inner nerve-fibre layer, in the vicinity of the papilla. They appeared as aggregations, were observed only in particular localities of the retina, and manifested themselves in general as oval, dimly-shining bodies, at times with nuclear contents.

In those localities where they formed clusters they occupied the whole thickness of the nerve-fibre layer, without increasing the diameter of the retina; in other parts, where they were found more scanty, they appeared as spindle-form enlargements of the nerve fibres, which showed in their course two or three such thickenings.

---

[1] Uthoff, *Zeh. Monat. Bl.*, Dec., 1880.

[2] A few remarks relating to the imbedding method, with special reference to the removal of a large part of the vitreous, may be indicated here. Since the vitreous can never attain the consistency of the other tissues and the imbedding mass, I found it necessary, in order to give the different tunics of the eye—sclera, choroid, and retina—an equal support from both sides, to remove the vitreous, layer after layer, before placing the organ in the imbedding mass. This procedure, when carefully executed in well-hardened eyes, succeeds in every case without producing the least alteration in the position and relation of the ocular tunics.

It is, moreover, of great advantage to allow a thin layer of the vitreous to remain adherent to the retinal surface. The imbedding mass enters into an inseparable connection with the retina, and since the mass accepts the various tinctures, the inner border of the retina would become blended and inaccurate. This condition, as may be well conceived, is not brought about if the above-mentioned rules are complied with, since the thin and compressed layer of vitreous is not stained, at least not in the same degree as the retina, and is recognized as a bright line between retina and mass.

Iodine, with and without the addition of sulphuric acid, also the various acids alone, produced no reaction.

The varicosities reached in this case no particular thickness, but all stages of enlargement, from 0.00625–0.025 *mm.*, could be observed. The various tinctures, hæmatoxylin, carmin, eosin, Grenacher carmin, colored these enlargements hardly more than the nerve-fibre layer; still it occurred several times, as was also observed by Uthoff, that hæmatoxylin and carmin colored the nuclear bodies dark-blue and red.

The ganglion cells in the immediate neighborhood of the varicosities deviated not in the least from the normal condition.

Several of the larger retinal vessels were turgid with blood corpuscles.

Around the well-defined walls of the vessels, between them and the neighboring tissue, I found a finely granulated mass. In longitudinal sections of the blood-vessels a pronounced network, the spaces of which were likewise filled with a granular mass, was observed on both sides.

The nerve fibres and ganglion cells were forced somewhat aside, but not subjected to the slightest change. In cross-sections of several large vessels situated in the nerve-fibre, ganglion-cell, and inner granular layers, and whose lumina were entirely filled with granular degenerated blood corpuscles, a diffuse discoloration of the adjacent tissue was to be seen, especially distinct in the nerve-fibre layer. The walls of the vessels were well defined, and refracted the light strongly. The extremely thin wall of one vessel occupying the outer granular layer could not be followed all around, but showed in one place a somewhat diffuse appearance—a break in its continuity. An extensive hemorrhage situated above this vessel, bordering the latter, occupied the intergranular layer. The adjacent tissue had assumed the already-mentioned diffuse discoloration, which took its origin apparently from the indistinct part of the vessel and extended into the centre of the hemorrhage. These diffuse colored parts were found only about such vessels as were filled with degenerated blood corpuscles, and the walls of which presented the above-mentioned highly refractive power. Iodine and sulphuric acid did not produce the characteristic action for amyloid degeneration.

Minute changes could not be observed, owing to the diffuse coloration and the dull-shining appearance. The retina was

otherwise well preserved. Sections of the sclera and choroid presented only normal appearances. In surface preparations of the chorio-capillaris I observed conditions similar to those in the left eye. Not the slightest alterations in the walls of the blood-vessels were to be found in teasing preparations of the retina.

The diffuse discoloration found about the changed blood-vessels, and, as I wish right here to remark, in the middle of those hemorrhages in a state of degeneration of the still-to-be-discussed case, may be considered as a sign of a retrograde metamorphosis, the nature of which cannot be determined, for my preparations were all treated with alcohol, which dissolves, as is well known, all fatty substances; the discoloration itself also prevented further investigations.

II.

For the short notes concerning this case I am indebted to the kindness of Dr. Brohm.

Jacob Bechtold, mason, aged 44, came under notice May 28, 1880. Patient took sick fourteen days before admission, after continued physical exertion. A feeling of general lassitude, dizziness, headaches, want of appetite, were the symptoms complained of. These symptoms increased, with the addition, eight days ago, of an attack of chills in the morning, followed by fever. On the day of admission there existed, besides these subjective symptoms, objective ones, which pointed to a pernicious anæmia: œdema, high degree of anæmia, heart-murmurs, bruits along the larger blood-vessels, retinal hemorrhages, poicilocytes, and decrease in the number of the red blood-corpuscles. The course of the disease up to June 10th was that of a pernicious anæmia. On this day the clinical appearances underwent a change. Bone symptoms appeared in the sternum. Pressure on the processus ensiformis caused severe pain. These symptoms disappeared gradually, and on June 16th the sternum was not sensitive to touch in any part. Spleen and liver, which were abnormally large at the date of admission, increased in size. Examination of the blood did not reveal an increase in the number of white blood corpuscles. On June 23d pains were again experienced in the centre of the sternum. From this day on, painful spots came under notice in the various bones of the body. Never, not even in the state of agony, five minutes before death, were nucleated blood corpuscles found.

The augmentation of the white blood corpuscles was observed for the first time on June 26th ; their rapid increase could be determined from day to day until death, which occurred on June 29th. Changes of the general symptoms were not produced by this altered blood condition.

Appearances of the eyes.—At the first examination a marked paleness of both papillæ, opacity of the retina, tortuosity of the retinal veins, and numerous retinal hemorrhages were found. In several of the round extravasations yellowish-white spots surrounded by a red border were noticed. Patient complained of no disturbance of vision. In the course of time processes of degeneration and absorption were observed in the hemorrhages. Besides these symptoms, circumscribed, irregular, white plaques of a dull lustre, similar to those described by Litten,[1] were seen. After existing for some time they would disappear only to return again.

This appearance was repeatedly observed and could be noticed during an interval of from 24–48 hours. These plaques were to be distinguished from those occurring in retinitis Brightii by their want of lustre and their more saturated gray color. These appearances had already been observed during the first period of the disease and underwent no material change during the latter half, corresponding in this and in many other respects with the well-known case of Litten. During the last few days the patient complained of a slight diminution of sight, especially when he assumed an upright position. The autopsy was made on June 30th, in the Pathological Institute.

Anatomical diagnosis.—Hyperplasia and green discoloration (chloroma) of the lymph glands of the mediastinum, and of the retrogastric and portal lymph glands. Parenchymatous hepatitis, tumor of the spleen, red metamorphosis and greenish discoloration of the marrow of the bones.

Macroscopic condition.—The eyes were removed a few hours after death and immediately placed in Müller's fluid. After sufficient hardening, Prof. Becker divided them into anterior and posterior halves. The latter parts were kindly given to me for microscopic examination.

Oc. sin.—The stump of the optic nerve presented a pronounced hydrops of its sheaths. Distributed throughout the retina were large and small hemorrhages, many of which showed yellowish

[1] Litten, *Berl. kl. Wochenschr.*, No. 20 u. 21, 1877.

white centres. With the unaided eye eighteen hemorrhages could be counted. The hemorrhages showed various forms; most conspicuous of all were those with bright centres. Several of the latter, *ex. gr.*, above the macula and papilla, attained a diameter of 1 *mm.* These appearances became more distinct with the assistance of a strong magnifying glass. Irregularities of the retinal surface were now visible. The larger hemorrhages appeared as prominences; small white elevations surrounded by a red border could also be observed. I made a faithful sketch of the macroscopic picture, paid especial attention to the position, size, and relation of the different changes to one another, as also to the macula and papilla. The drawing was of the greatest advantage to me during my examination, for I was thus enabled to assert that certain changes which I found in my preparations and which I, by their size and position, could compare with the macroscopic condition, were the anatomical bases of these appearances.

Oc. dex.—The changes in this eye were similar to those described in the left; the white plaques appeared more numerous. A similar procedure with reference to the drawing was observed here also.

Microscopic examination. Oc. dex.—The stump of the optic nerve was perfectly normal, neither did the papilla offer any pathological changes. The deepest part of the physiological excavation was situated more to the outer side. The outer wall was flat, whilst the opposite side showed quite a steep elevation; the larger blood-vessels ascended this side. Signs of a serous transudation were quite marked in some parts of the retina, especially near the papilla; in the periphery these changes were wanting altogether. The hemorrhagic exudations were met with principally in the nerve-fibre layer; the well-preserved blood corpuscles did not, as in the other case, follow the course of the nerve fibres, but arranged themselves close to and above each other in the direction of the radial fibres, acquiring thereby a columnar appearance. In the ganglion-cell layer these columns divided, forming arches which in turn sent out prolongations; these extended through the retina and bulged the external limitans outward.

The so-called varicose nerve fibres[1] appeared in great numbers and in a pronounced form. They formed large nests which projected into the vitreous. The form of the several varicosities in these nests was irregular owing to the pressure exercised upon

[1] Heinrich Müller's gesammelte und hinterlassene Schriften zur Anatomie und Physiologie des Auges, p. 299.

each other. The surrounding retina showed normal conditions, with the exception of a slight œdema of the nerve-fibre layer.

I never succeeded in finding, like Uthoff, two or more nuclear bodies in one varicosity, but convinced myself by fine focussing that, in those few preparations in which this seemed to be the case, this appearance was due rather to oblique sections and to the juxtaposition, in the first place, of two nuclear bodies belonging to two adjacent varicosities.

The average size of the varicosities was larger than in case Fritz (0.005-0.0625 *mm*). The largest diameter of a nuclear body was 0.0125 *mm.* The nucleus of a large ganglion cell in this part of the retina had a diameter of 0.009375 *mm.*; the cell itself measured 0.0218 *mm.* The various coloring agents stained the varicosities deeper than in the foregoing case, perhaps because the nuclear bodies (which accepted more of the coloring matter than the remaining part of the varicosity) were larger.

The application of iodine and the acids produced, as in case Fritz, a negative result. The walls of the blood-vessels were well marked; changes similar to those described in the right eye, case Fritz, were not observed, neither did teasing preparations demonstrate pathological changes in the walls of the blood-vessels. Sections of the choroid and sclera showed these tissues to be normal. In surface preparations of the chorio-capillaris I observed, besides those appearances already mentioned in case Fritz, a great number of irregularly formed blood corpuscles, of from 0.002574 to 0.0159 *mm.* in diameter. A nucleus was plainly visible in the majority of cases; in many, two and three were to be seen; in some, the nucleus completely filled the cell, so that only some finely granulated protoplasm was apparent in the periphery. The phenomenon of division of the nucleus could be observed in all its stages in the large cells. The difference with reference to the contents of the blood-vessels in both cases was marked.

The white corpuscles in case Fritz did not appear in such number and size as in this case, neither were the phenomena of cell division observed. The pale-red blood corpuscles reached a size of 0.0095 *mm.*; the white corpuscles in case Fritz seldom exceeded the normal dimensions; in case Bechtold their diameter often amounted to 0.0519 *mm.*

Oc. sin.—The optic nerve and papilla appeared in every respect as in the right eye. Œdema of the nerve-fibre layer was most pronounced in the vicinity of the papilla; the serous transudation

in both these eyes was more equally distributed than in case Fritz.

The hemorrhages could be classified under three heads: namely, such as were composed mostly of red blood corpuscles; others which resembled the above in form and size, differing from them only in the accumulation in their centres of colorless cells; and, at last, such as were situated between the limitans interna and the nerve-fibre layer, taking upon themselves egg-shaped forms and projecting into the vitreous humor. Since the first-mentioned hemorrhages offer no points of distinction from those described in case Fritz, they deserve no further notice.

The second form corresponds to the oft-mentioned ophthalmoscopic picture of a well-circumscribed hemorrhage with a yellowish-white centre. I made quite a number of sections, whose diameter never exceeded $\frac{1}{66}$ *mm.*, through such hemorrhages. I found in these preparations, which (to judge from the length of the hemorrhages and of the central accumulation of cells, and by means of comparison with the other sections) corresponded to the border of the extravasation, a large, well-circumscribed accumulation of red blood corpuscles, in the centre of which a number of various-sized and formed cells were collected together. The cells had been colored blue by hæmatoxylin, and corresponded in form and size—0.00274–0.01137 *mm.*—with those filling the adjoining blood-vessels.

The central, tolerably well-circumscribed accumulation of cells lay nearer the inner border of the hemorrhage, and was separated from the limitans interna by a layer composed of from 6–10 rows of well-preserved red blood corpuscles. The length of this hemorrhage was 0.918 *mm.*, the greatest thickness 0.518 *mm.*, the diameter of the accumulated lymphoid cells 0.0612 *mm.*

A second preparation, which, owing to an increase in the diameter of the central part of the hemorrhage (length of hemorrhage 1.0204 *mm.*, diameter of the collection of cells 0.0816 *mm.*), seemed to correspond to a part of the hemorrhage nearer the centre, showed entirely different conditions.

Only several rows of degenerated red blood corpuscles lay between the limitans interna and the centre of the extravasation, which consisted mostly of metamorphosed colorless cells, amongst which were several that still accepted the coloring matter. The whole had assumed a diffuse discoloration.

In other sections which came from the centre of these white

spots (length of hemorrhage 1.0204 *mm.*, thickness 0.153 *mm.*, diameter of central part larger than in the above-mentioned cuts) the appearances of degeneration were more marked. The broken-down cells were arranged close to one another, and occupied almost the entire thickness of the hemorrhage, which participated in this retrograde metamorphosis to a higher degree than in the last-described serial cuts.

The same dull, blurred appearance mentioned above followed the application of the various tinctures, the interpretation of which has already been given.

Coarse, large structural changes were not noticed. Isolated varicose nerve fibres were met with in the hemorrhages, but never in their centre. In other sections I found clusters of varicose nerve fibres, surrounded by a border of well-preserved blood corpuscles, which in number stood in no relation to those encircling the accumulation of lymphoid cells. In another part of the retina, in the nerve-fibre layer, there existed a diffuse colored spot, surrounded by several degenerated blood corpuscles. This spot of 0.1 *mm.* diameter, in the periphery of which the nerve fibres appeared indistinct, I consider as an almost entirely absorbed hemorrhage with secondary structural changes.

The third form of hemorrhages, namely, such between limitans and nerve-fibre layer, appeared in two localities: in the macula lutea and somewhat below and externally to this part. The latter hemorrhage, which extended partly into the nerve-fibre layer, or originated from this part of the retina, showed in this layer a granular degeneration of the blood corpuscles and other appearances of a morbid nature.

The thickness of this hemorrhage amounted to 0.306 *mm.*, and it projected 0.2 *mm.* beyond the level of the retina. The hemorrhage in the macula had, owing to the formation of retinal folds, become detached from the ganglion-cell layer, and differed from the above-mentioned hemorrhagic exudation only by the absence of all secondary processes.

The varicose nerve fibres showed appearances similar in every respect to those in the other eye. The changes in the walls of the larger blood-vessels corresponded to those found in the right eye (case Fritz), but were less marked. The walls of many were extremely thin and reflected the light strongly, the lumen was turgid with degenerated blood corpuscles. The tissue about the blood-vessels exhibited the oft-mentioned washed and blurred ap-

pearance. The network encircling the larger blood-vessels in the nerve-fibre layer, as described in case Fritz, appeared in this eye also. Sclera, choroidea, and surface preparations of the latter tunic exhibited the same conditions as in the right eye.

Remarks.—A review of the foregoing will demonstrate that the essential pathological alterations are: changes in the walls of the blood-vessels, œdema of the nerve-fibre layer, and formation of hemorrhages and varicose nerve fibres. With reference to changes in the blood-vessels it has been shown that in one eye of both cases marked changes in the walls of the vessels were to be observed.

I could not, like Biermer, demonstrate fatty degeneration nor any other change in the walls of the retinal capillaries. Neither did Quincke,[1] Litten, Müller,[2] Eichhorst,[3] Uthoff succeed in discovering pathological appearances in these vessels. The distensions, aneurysmatic enlargements of the retinal capillaries described by Manz,[4] Nykamp,[5] and Eichhorst, were not found.

In the surface preparations of the chorio-capillaris I found the distensions unusually filled with blood corpuscles. Comparison with normal preparations showed that although their number had not increased, they had become somewhat larger in size.

Both preparations (normal and pathological) came from the periphery of the choroid, as was to be inferred from the length of the meshes.

---

[1] Quincke, Sammlung klinischer Vorträge, herausgegeben von Richard Volkmann, No. 100.

[2] Herm. Müller, Die progressive perniciöse Anämie, nach Beobachtungen auf der medic. Klinik in Zürich, 1877.

[3] Die progressive perniciöse Anämie. Eine klinische und kritische Untersuchung von Dr. Herm. Eichhorst, 1878, p. 272.

[4] *Centralbl. der med. Wissenschaft.*, 1876. p. 675.

[5] *Berl. klin. Wochenschr.*, No. 9, 1877.

Manz found in the microscopic examination of one eye, in which hemorrhages with bright centres had been seen with the ophthalmoscope, ampulla-like distensions of the retinal capillary walls. These distensions were partly empty and partly filled with colored and colorless cells; he left it undecided whether only the lymph-sheath or also the wall of the vessel participates in the aneurysmatic distensions.

Eichhorst, who had met with similar appearances in the examination of two eyes, succeeded in proving in osmium preparations that the lymph-sheath only becomes distended, the wall of the blood-vessel having previously been torn through.

In those eyes which showed microscopic changes of the blood-vessels, the alterations in the fundus were first observed, as reference to the clinical history will show; the ophthalmoscopic changes observed in the other eyes, especially in the left eye of case Fritz, appeared at a later period, and in a lesser degree, as is proven by the microscopic description. I am therefore disposed to bring all the phenomena (œdema, hemorrhage, varicosities of the nerve fibres) into close connection with the disease of the blood-vessels, and in such a manner that the degree of the pathological appearances is to be considered as dependent upon the degree of the changes in the blood-vessels.

The changes called forth by serous transudation were more or less pronounced in all the eyes, especially marked in the vicinity of the papilla, where they were most distinctly recognized with the ophthalmoscope under the form of retinal cloudiness. Only in the left eye (case Fritz) did the above-mentioned changes, forcing apart and maceration of the nerve fibres, appear in the papilla also. In the right eye, on the contrary, in which the pathological process had lasted longer, the œdema was not confined to the nerve-fibre layer alone, but the other layers of the retina took part in this process and produced a total œdema of this tissue.

The repeated appearance and disappearance of the retinal cloudiness was observed with the ophthalmoscope. Microscopically, none, or only very slight, changes due to serous transudation could be established in various parts of the retina, especially in the periphery, of the different eyes, whilst the ophthalmoscope showed a cloudiness of the retina in its entire extent (as I convinced myself in case Fritz a few days before death). It is therefore to be accepted that the serous transudation in the just alluded to unchanged retinal parts was either of a slight degree or of short duration, producing therefore no visible changes. The narrow network, with fine granulated contents, about the larger retinal blood-vessels in the inner nerve-fibre layer appeared in all eyes, most distinct in those preparations striking the long diameter of the vessels. These al-

terations remind one of the changes described by Iwanoff as œdema about the veins in the nerve-fibre layer, with destruction of the surrounding tissue, and may, perhaps, be therefore viewed as the first stage of this process.

The round and ribbon-shaped hemorrhages appeared in all eyes, especially numerous at the posterior pole. The latter form of exudation constituted the main factor of disease in the left eye (case Fritz); in the other eyes the hemorrhages contained in their centre those yellowish white spots which may originate in the following manner.

1. By the accumulation of well preserved lymphoid cells in the middle of the hemorrhage. These cell aggregations were not surrounded by a distinct envelope, as Manz found in his case, but were in immediate contact with the surrounding hemorrhage, into which they often sent prolongations. The diameter, 0.06—0.09 *mm.*, of the collection of cells corresponds exactly with the statements of Manz.

2. By degeneration (retrograde metamorphosis) of the above-mentioned cluster of lymphoid cells and surrounding blood corpuscles, combined with secondary structural changes.

3. By the presence of large clusters of varicose nerve fibres in the centre of the hemorrhages.

Another question which must now be considered pertains to the mode of origin of the hemorrhages. Manz beholds in the aneurysmatic distensions described by him the various stages of development of the hemorrhages. Eichhorst found similar changes in the retinal capillaries, and arrived at the same conclusions. But since the third eye, which he examined exhibited no changes in the walls of the blood-vessels, the origin of the hemorrhages existing in this eye was attributed to diapedesis.

Nykamp found in one eye blood corpuscles between lymph-sheath and the walls of the blood-vessels, also small clusters composed of but several blood corpuscles in the vicinity of the vessels. These appearances he also ascribes to a diapedesis. Herman Müller could not demonstrate any alterations in the blood-vessels; Litten found in one

case destruction of tissue, which he believes must therefore be attributed to changes in the blood-vessels (rhexis), because such alterations are not wont to follow a diapedesis. In those cases where changes in the blood-vessels are absent, he and Müller think that the matter in question is a functional disturbance, a greater fragility of the blood-vessels, due to a variation in the mixture of the blood.

Marked changes in the blood-vessels appeared in one eye of each case. In the left eye (case Fritz) a large hemorrhage composed of thickly clustered blood corpuscles was situated above and in contact with the altered blood-vessel, just at the locality where the wall of the latter was unrecognizable; appearances of degeneration extended from this part of the vessel into the hemorrhage. In the right eye (case Bechtold) there existed, besides changes in the blood-vessels, two large hemorrhages between the inner nerve-fibre layer and membrana limitans interna. Reference to the clinical history will show that those ribbon-shaped hemorrhages in the left eye (case Fritz) originated quite suddenly, and were produced most likely by the violent acts of vomiting. These facts, combined with the evidence of degeneration of the walls of the blood-vessels point with certainty to rupture (rhexis) of the walls of the blood-vessels as the cause of the hemorrhages. Those hemorrhages, on the other hand, which were composed of blood-corpuscles arranged above and next to each other, forming arcades and arches between which the unchanged nerve and Müller's fibres stood out quite prominently, also those small isolated clusters of blood corpuscles in the various retinal layers (Oc. dex., case Fritz), indicate a diapedesis. We believe, therefore, that the hemorrhages were caused by both methods.

The varicose nerve fibres were found more or less developed in all eyes. Those homogeneous thickenings of the nerve fibres, as found on the papilla and in the retina of the left eye (case Fritz), were already considered by Heinr. Müller [1] and Roth [2] as the first stage in the development of the varicose nerve fibres, whilst those varicosities with glob-

[1] *L. c.* [2] *Virchow's Arch.*, Bd. lv, p. 197.

ular nuclear contents (called "ganglioform hypertrophy" by Roth) were looked upon as the last stage of their formation. Although these varicosities have been observed in many forms of retinitis, and their presence in pernicious anæmia was *a priori* to be surmised, they were but lately found in this particular form of disease by Uthoff. He found them most often isolated, but also several times in the centre of hemorrhages, and considers them, in part, as the anatomical foundation of yellowish white spots observed in the hemorrhages. In case Bechtold I observed several hemorrhages whose centres were composed exclusively of large clusters of varicose nerve fibres, and can, therefore, confirm the statements of Uthoff.

Besides these yellowish-white spots, due to the aggregation of varicose nerve fibres, we have still to discuss the white plaques which were observed in three of the eyes, and consist, according to Litten, often only of a collection of white blood corpuscles. Occasionally varicose nerve fibres are also to be found in the plaques. "They are composed, according to my opinion, not exclusively of varicose nerve fibres; these accompany rather only occasionally the accumulation of leucocytes."

Litten assumes that in those cases where varicose nerve fibres alone were found, the white corpuscles which had existed were absorbed, and therefore not found at the microscopic examination. Those cases in which the yellow spots are seen with the ophthalmoscope gradually to decrease in size, point, according to his opinion, to this proceeding.

Since I found in both cases, especially in case Bechtold, numerous clusters of varicose nerve fibres, in the vicinity of which the retina in many cases showed, with the exception of a slight degree of serous transudations, normal conditions, and since I never found varicose nerve fibres in the aggregation of cells in the centre of the hemorrhages, I cannot join in with the opinion of Litten, and believe I must affirm that the white plaques, at least in my cases, were composed exclusively of varicose nerve fibres.

The retrograde hemorrhage, with still visible secondary

structural changes in the left eye (case Bechtold), might also have presented ophthalmoscopically the appearance of a white spot. According to my observations, there was no direct connection between the hemorrhages and the varicosities; I found the latter but rarely within the hemorrhages, and then only isolated and in the periphery. In the left eye (case Fritz) they appeared in the papilla and bordering parts of the nerve-fibre layer, which remained free from hemorrhages. In the right eye (case Bechtold) the varicose fibres were so numerous that they formed the chief factor of the pathological changes, the hemorrhages existing in a comparatively slight degree.

The formation of hemorrhages about the clusters of varicose nerve fibres I seldom observed. As the size of the sanguineous exudation stood in no proportion to the diameter of the aggregation of varicose nerve fibres, and as the hemorrhages had formed but around a few of the numerous clusters, it is to be accepted that they had a secondary origin, and that a corresponding appearance may be observed with the ophthalmoscope, namely, the gradual formation of a red border around a white spot.

It is not my intention to enter into details as to the manner of origin of the varicose nerve fibres; the various theories having been compiled by Roth, *l. c.* I wish only to call attention to the direct connection between the varicosities of the nerve fibres and the serous transudation in the nerve-fibre layer, which appeared as a constant phenomenon in the 4 eyes. Roth found varicose nerve fibres in 35 cases of different forms of retinitis, which led him to the conclusion that "the varicose nerve fibres are a more or less marked accompanying symptom of an inflammatory process depending upon a local or general cause." That a cloudiness of the retina, which appears microscopically as an œdema of the nerve-fibre layer, exists to a greater or less degree in every inflammation of the retina, requires no further confirmation.

We have already learned from the clinical history that the œdema made its appearance at first in the right and afterward in the left eye; in the latter case we found the

first stages of development of varicose nerve fibres in the papilla and surrounding parts of the retina. In the right eye, where the serous transudation had operated for a longer period and appeared in a more marked degree, as is to be inferred from the microscopic condition (structural changes, œdema of the retina), the varicosities appeared more developed and numerous; many possessed already a nuclear body.

In case Bechtold, where the disease had lasted longer and the serous transudation appeared more equalized in both eyes than in case Fritz, the varicosities had reached their highest stage of development. I call into requisition the discovery of Rumpf, who found that the action of lymph upon the nerve fibres produces swelling of the latter, in order more fully to explain the minute changes arising through the action of the serous transudation upon the nerve fibres.

It is a pleasant duty at the end of these investigations to thank Prof. Arnold for the support proffered me during the course of my examinations.

A CASE OF QUININE AMAUROSIS MANIFESTING ITSELF PRIMARILY IN ONE EYE ONLY.

By C. M. HOBBY, M.D., Iowa City, Ia.

Aug. 6, 1881.—Miss M. S., aged 21, was brought to me by a physician of a neighboring town with the following history.

Some weeks previously the patient suffered from very severe left supra-orbital neuralgia; subsequently what was supposed to be episcleritis of the left eye occurred, accompanied by conjunctival injection and œdema of the eyelids. The neuralgia being considered malarial in character, was treated with large doses of quinine, and fomentations of belladonna were applied to the eye. Under this treatment the paroxysms of pain diminished in frequency, and the conjunctival and subconjunctival injection disappeared. *Very large doses of quinine were required to produce cinchonism.* No belladonna had been used during the preceding week.

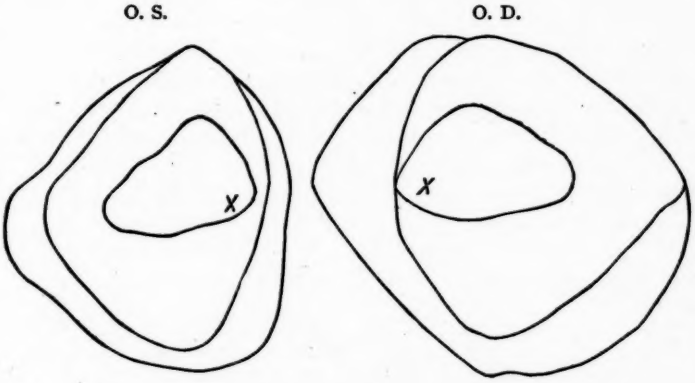
At the time the patient came under my observation, she presented an anæmic appearance, had very little appetite, and was still suffering from occasional attacks of neuralgia. There was no injection of the conjunctiva or sclerotic; the right eye was apparently normal; in the left eye the pupil was widely dilated and not appreciably affected by light. O D S = $\frac{20}{xxxii}$; O S S = $\frac{3}{cc}$. No improvement obtainable by glasses.

Ophthalmoscopic examination showed intense ischæmia of *both retinæ.* No test of visual field was made at this time.

I retained the patient under observation, unable to make a satisfactory diagnosis. In order to determine how much the dilatation of the left pupil was due to the former use of belladonna, I instilled a drop of a one-half-per-cent solution of eserine.

On the next day the pupil had nearly returned to its normal dimensions, and the acuteness of vision had increased to $\frac{25}{\text{CXXVII}}$ The patient's vision continued to improve for the next nine days, when S was $\frac{16}{xx}$ for both eyes. During that time she had received only indifferent medication. At this time, the neuralgia becoming prominent and markedly periodical, I ordered her twenty grains of quinine, to be taken in two doses, one hour apart. The next morning she felt much better. The acuteness of vision being as before, she was permitted to return home.

On the fourth day following (Aug. 20th) she returned with both pupils dilated to the utmost. O D S $= \frac{16}{cc}$; O S S $= \frac{3}{cc}$. At this time she reported that the left eye began to get worse upon her return home, but she noticed no trouble with the right eye until the previous day. The visual field was now examined (by using black objects on white paper), and found reduced in both eyes to about one tenth of the normal. Ophthalmoscopic examination showed profound ischæmia of both retinæ. Recognizing the probable existence of "quinine amaurosis," I commenced the use of strychnia hypodermically, increasing the quantity each time until the physiological effects were apparent. The improvement was rapid, and in ten days the acuteness of vision had returned to $\frac{16}{xx}$ for both eyes, and the visual field of each had doubled. During the use of strychnia the malarial symptoms disappeared and the general physical condition improved. She was then directed to use a ferruginous tonic and discharged. Six weeks later I found the acuteness of vision unchanged and the



visual field much increased in extent, but still less than half the normal.

The accompanying figures show the gradual extension of the visual fields, their limits having been determined on Aug. 20th, Aug. 30th, and Nov. 15th.

The inference to be drawn from this case would seem to be that the toxic effect of quinia may primarily manifest itself in a *single eye*.

THREE CASES OF HYDROPHTHALMUS TREATED WITH IRIDECTOMY.

By H. DERBY, M.D., of Boston.

CASES of hydrophthalmus, cornea globosa, are as rare as they are unpromising. In the records of twenty years' practice I found but five instances of this disease. The only treatment seriously proposed has been iridectomy; and the encouragement to the performance of this operation has been given on grounds that are mainly theoretical. Instances of its performance have rarely been published. In his monograph on the subject,[1] written in 1869, Muralt states that he is not aware of any results having yet been recorded, and gives, himself, the notes of a single case. He admits that the operation is in this disease attended by unusual danger as regards healing and the chance of hemorrhage. And Schmidt, writing in 1877,[2] says: "The secondary glaucoma which complicates cornea globosa (hydrophthalmus congenitus) offers a poor prognosis for iridectomy. Besides the danger of cyclitis, which may be easily excited by this operation, there are perilous possibilities of purulent infiltration of the vitreous or of choroidal hemorrhages. When in these cases the rapid increase of intra-ocular pressure renders some kind of action necessary, it is best to try the effect of repeated paracentesis, which is certainly freer from danger."

My notes of the three following cases will therefore possess some interest.

[1] Über Hydrophthalmus Congenitus. Zürich, 1869, p. 50.

[2] Graefe-Saemisch, *Handbuch der gesammten Augenheilkunde*, vol. 5, p. 136.

Case 1.—Bridget N., æt. 22, consulted me in February, 1865. Her vision began to be impaired at the age of eight, and a year later a perceptible change in the appearance of each eye had taken place. Fourteen months previously, sight having steadily failed up to that time, she had come to me at the infirmary. The notes of the case had been mislaid, all that could be ascertained being the fact that the case was one of pronounced hydrophthalmus in each eye, the right being the worse, and retaining only quantitative perception of light. A broad iridectomy had been made upward at that time on the right eye.

She now reported the right eye to have steadily improved and the left to have as regularly fallen off ever since the operation.

Each eye was found abnormally large and full, cornea 7″ in diameter and highly anæsthetic. + T 2 in each eye.

Right eye (which had been operated on) had a clear cornea, dilated and motionless pupil, and transparent media. Deep glaucomatous excavation of optic entrance, which was white, and the vessels of which were small. Sees moving hand in 13′.

Left eye.—Ciliary vessels congested, cornea very hazy, pupil dilated and fixed. Quantitative perception of light.

Iridectomy on left eye was performed Feb. 23d, much hemorrhage occurring. Considerable pain followed the operation, and lasted a month or more. Nov. 29th, of that year, the media were found clear and the optic entrance deeply excavated. She could see the motions of the hand seven feet away. With the right eye a single letter of 200 was made out in a foot.

A year later she wrote me that improvement had continued. She was working in a mill, and earning $30 a month.

Nov, 9, 1870.—Vision continued improved until two and a half years ago, then began to fall off, and work had to be given up. Ever since it had slowly failed, though of late the change had been very slight.

Eyes looked much as before, media continuing clear, and tension the same. With the right eye 200 could be made out in 3′; visual field much contracted up and out. With the left the hand was seen moving in 1′.

Case 2.—L. H., æt. 22, came to me Jan. 4, 1866. There are in his family six boys and two girls. Half of each have hydrophthalmus, two brothers and one sister being wholly blind. According to his account, the disease comes on in early childhood, the eyes rapidly enlarge, and ultimately rupture during some straining effort or from the effects of a blow.

[I have subsequently ascertained that this disease was unknown in his family before the present generation. No child of any brother or sister (whether blind or seeing) has shown any form of disease of the eye. The parents are still living, perfectly healthy, and with excellent eyes; are not related to each other.]

In his own case the disease has steadily increased since birth, the right eye being the more affected. The left eye retained the power of reading up to the age of 12. Two years ago an ophthalmic surgeon did iridectomy on the right eye. The excision of iris was large and well up to the ciliary edge, but the patient did not keep sufficiently still after the operation, and a severe and painful inflammation followed, lasting several weeks. As regards sight the eye is reported to be neither better nor worse than before the operation. It is now very prominent, + T 2, cornea 6″ in diameter, enormous anterior chamber, media clear, no excavation of optic entrance. Doubtful quantitative perception of light.

Left eye is less prominent + T 2, cornea 5½″ in diameter. Pupil dilated and fixed. Very large anterior chamber. Deep excavation of optic entrance. V $\frac{1}{25}$ with $-\frac{1}{2}$. He states, with great positiveness, that this continues steadily to fail.

A large iridectomy was done on this eye the next day. The wound did not close for five days, and the eye remained irritable, and at times acutely painful, for a month.

The operation was followed by a distinct stoppage of the failure of vision, indeed by some temporary improvement. In 1870 he was reported to be able to go about alone and to read the titles of books. His vision was then $\frac{1}{13}$. There was a slight cystoid cicatrix at the inner extremity of the wound.

Dec. 13, 1881.—I saw him once more, nearly sixteen years after the operation. The eyes were unchanged in appearance. He reported a steady diminution, for a few years past, in the area of the visual field, and in acuteness of vision. This was, however, very slow. He could now see the motions of a hand three metres away (nearly ten feet). This was one of his "bad days," there being times when he was confident he saw much better. He is a person of unusual intelligence, and is positive that he would not have retained his sight so long had it not been for the operation. He is now 38 years of age. Both his brothers and his sister were entirely blind before 17.

Case 3.—H. C., æt. 20, came to me April 12, 1870. His father became blind at the age of 25. Of 11 children, 4 are also blind. Vision has generally begun to fail at about 14, the first symptom

being blur on use, followed by watering, rainbow colors, and gradual loss of sight, without pain. A sister, who comes with him, presents in her right eye the usual signs of hydrophthalmus. The other eye has atrophied, having previously ruptured. Another has in one eye a cataract, and no perception of light; in the other, a partial cataract and entire optic-nerve atrophy. Patient himself has been losing sight ever since February, having been able to teach school up to that time. Rainbow colors are seen whenever a flame is regarded. Each cornea is large and each anterior chamber abnormally deep, the disease being evidently in an early stage. Tension is increased in the right eye, normal in the left. There are, on each side, a glaucomatous excavation and an arterial pulse. Vision $\frac{1}{10}$ in either eye. Each field of vision contracted, especially down and in. No corneal anæsthesia.

April 26th.—I did iridectomy on the right eye, and, one month later, on the left. Each eye healed readily, without pain. The arterial pulse at once ceased. As the patient had been warned, vision fell off immediately after the operation, in the right eye to $\frac{1}{20}$, in the left to $\frac{1}{8}$. It subsequently returned in full; in 1872 had diminished to $\frac{14}{200}$ in each eye, and has never varied since. The visual field retains its previous limits, and the disease, in short, seems definitely arrested. I saw the patient last in November, 1881, eleven years after the operation.

As was stated in the outset, the disease is very rare. Operations for its relief are, however, so much rarer, and so infrequently reported, that the cases here cited may well serve as a basis for generalization. They show that iridectomy, undertaken at a late stage of the affection, is liable to be complicated by hemorrhage, and to leave the eye in a state of chronic and painful irritation. But it cannot be denied that the disease is arrested, and that an amount of vision, that was rapidly becoming extinct, is spread over a series of years, to the great comfort of the patient. Case 1 had already lasted 14 years, and there was distinct optic-nerve atrophy at the time of the operation. Case 2 at least 10. In both, the beneficial effect of the iridectomy is indisputable. Case 3 was taken in an early stage, and the disease at once stayed. Eleven years have elapsed and no progress is manifest. I feel, therefore, justified in dissenting from the writer in *Graefe-Saemisch*, and in advising iridectomy.

EXTRACTION OF FOREIGN BODIES FROM THE IRIS.

By J. L. THOMPSON, of Indianapolis, Ind.

IN the December number of the ARCHIVES OF OPHTHALMOLOGY, vol. x, No. 4, Dr. Hirschberg, of Berlin, in his article on the extraction of chips of iron and steel from the interior of the eye, quotes from the *London Lancet* as follows:

"On May 18, '59, a girl, æt. fourteen, was brought to St. Mary's Hospital, under the care of Mr. White Cooper. The previous day, whilst standing near her father, who was turning a piece of hardened iron in a lathe, a chip struck her left eye, which had since been in constant pain, though the sight was not materially affected. The chip was seen sticking in the iris, almost midway between its upper border and the pupil. The anterior chamber was full, and there was no mark of entrance in the cornea. * * * Mr. White Cooper, fearing that difficulty would arise in grasping the smooth metal with forceps, suspended as it was in the loose membrane, decided on trying the effect of a magnet. The iris having been brought under the influence of atropine, whereby the foreign body was drawn near the margin of the cornea, the patient was chloroformed, and a cataract knife was passed through the cornea opposite the chip, and a sufficient opening made for its escape. A magnet was then applied to the wound, and in an instant the chip leaped from its situation in the eye and attached itself to the magnet. * * * The eye was well in a week."

To the majority of the readers of the ARCHIVES, doubtless, the report of this case without comment will do no

harm, but to the inexperienced it is likely to work immense mischief, by causing them to use atropine in similar cases, and though the result was good in the above-reported case, yet we think that the end by no means justified the means used. The following case will show what dangers attach to the use of a mydriatic where foreign bodies lie in the anterior chamber.

W. F., æt. 40, came to me in 1875, two days after the receipt of an injury to his right eye while hammering the iron hoop from a paint-keg with the blade of a hatchet; a small piece of either the hoop or the hatchet flew into the eye, passing through the cornea and lodging in the stroma of the inner-lower portion of the iris, midway between the ciliary and pupillary margins. The corneal wound had entirely healed, leaving scarcely a trace of opacity. His vision was good and he suffered but little pain. I proposed removing it, with probably a small portion of the iris, but he went off, promising to return shortly. I saw nothing of him for two days more, when he presented himself again, with the iris fully dilated and the body forced into the lens. I asked him how he came to use the atropine, and he replied that he had been reading Gunn's Domestic Medicine. A well-marked opacity of a portion of the lens so obscured the metal that it could not be seen. Of course I did nothing further than to watch and wait for further developments. The last time I saw him, which was about two months after the injury, the lens was almost totally cataractous, with no inflammation remaining. He then passed from under my notice.

In the above case, by sacrificing a very small portion of the iris he could have been given useful vision, and probably even without said sacrifice, but after the use of the atropine the body was forced through the delicate iris, the lens wounded, and now, of course, if any thing is done it must be the removal of the lens,—a very questionable operation where the other eye is not aphakial.

How would atropine have acted in the following case?

White, Joseph, æt. 28, a stone-cutter, was wounded while dressing a stone with hammer and chisel, Jan. 31, '80. He immediately went to a "Surgical Institute" where, he says, they worked

on him every day until he called upon me on Jan. 5, '81, when I found a foreign body lodged on the upper pupillary margin of the iris, about three fourths of it upon the iris and the remainder hanging over and into the pupil. I placed him under chloroform, made a section of the cornea at its junction with the sclerotic, and removed the body, with a small portion of the iris, without any difficulty whatever, before the class at our city hospital. The operation was made on Saturday, and he read in the presence of the class on the following Wednesday. Now, had one used a mydriatic in his case, the body would as surely have been stripped off of the iris and against the lens, as was the foreign body forced through the iris in the case above mentioned.

I have simply reported the two cases to show the danger of the use of atropine where bodies are embedded in the iris. Many others, where percussion-caps and pieces of iron have been so placed, have I, as well as all other eye-surgeons of experience, had to do with, but their mention in detail would be unprofitable and superfluous.

RUPTURE OF THE EYEBALL IN ITS POSTERIOR HEMISPHERE FROM A BLOW IN THE FACE.

By JULIAN J. CHISOLM, M.D., of Baltimore.

THE two cases of recent occurrence which I here report, although novel in my personal experience, would not have had publicity beyond the staff of the Presbyterian Eye and Ear Charity Hospital, before whom the diagnosis was made and verified after extirpation of the destroyed eyeballs, had I not found in a recent work on "Injuries of the Eye," by Ferdinand Von Arlt, a recognized authority on such matters, the following passage. I make the quotation from a translation of the German work by Dr. Chas. S. Turnbull—an American publication. A paragraph on page 37, reads as follows: "*Cases of rupture of the sclerotic are not rare. Such rents extend without exception to the ciliary body, even through it. Of ruptures in the posterior sclerotic area, only one case is recorded* (by Bowman), *and here the rupture was not recognized until after the eyeball had been enucleated.*" From the same work I make extracts from pages 22 and 23: "When a foreign body impinges against the eye with a certain degree of sudden force, and, on account of certain physical properties, such as size, bluntness, etc., can not perforate its tunics, it expends this force by contusing the surface against which it strikes, or it causes either flattenings or indentations, the degree or extent of which depend on the character of the injuring surface, while, in the moment of injury, perhaps, no movement of the eyeball, as a whole, takes place. Now, an indentation or a flattening of the eyeball can not plausibly

be considered possible, unless the same also changes its form *in toto*. Suppose we consider the point attacked as the pole, and the direction of the attacking force as the axis of a sphere, then the equator of the latter must become longer at the moment of the injury. Any resistance at the opposite wall, especially if distributed over an extensive area, will only serve to increase this change of form. The occurrence of a gap in such a wall, or of a projection upon it, will, when the globe is pressed against, produce a localized bulging—in the former case corresponding in shape and dimensions to the gap, and in the latter to an indentation or perforation of the sclerotic; *but such conditions hardly, if ever, occur.*"

"Sclerotic rupture is of *rare or non-occurrence* in those very localities where choroidal rents are most frequent." Again, from page 27: "The constant parallelism of the sclerotic rent to the corneal margin has an additional reason in the histological fact, that the fibres of the sclerotic coat run parallel to the latter within the confines of the ciliary region." Again, at page 38: "The sclerotic rent is linear, or slightly arched, more or less serrated, and usually runs parallel to the limbus cornea, at a distance of from 2 to 5 millimetres from the latter. In one case only (Schroeter, *Klinische Monatsblätter*, 1866, p. 248) did the rent run at an acute angle."

The following extract is made from a standard work on "Eye Injuries," by George Lawson, F.R.C.S.: "The split in the sclerotic is almost invariably near the margin of the cornea."

Case 1.—N. L., aged 27, was struck in the left eye with a chair during a drunken broil. He was knocked down insensible, and had his nose and brow badly cut. When he came to himself he was taken home. In the meantime the eyeball had become very prominent from swelling. He complained of great pain in it, and also of loss of sight. He was brought to the Presbyterian Eye and Ear Charity Hospital for treatment on the day after the accident. I found the eyeball very protruding, with lids much swollen and firmly stretched over the projecting ball which was half exposed. The conjunctiva was much discolored with blood extrava-

sation, and was chemosed in a heavy fold parallel with the free border of the lower lid. When the lids were drawn apart the eyeball protruded so conspicuously as to show the whole anterior half of the sphere, and presented the condition known as paraphymosis of the eyelids. When thus exposed, the whole front of the eyeball was entire, apparently without any injury to its outer walls. The anterior chamber was full of blood, and there was no perception of light. I was induced to palpate the eye and found its tension decidedly minus. It was so soft that the cornea could be corrugated, a condition that could not exist in connection with the intra-ocular hemorrhage without a giving way of the eyeball and the escape of some of its contents. Upon this diminished tension and excessive blood extravasation, with great prominence of the eyeball, I diagnosed laceration of the posterior hemisphere of the sclerotic. To prevent future suffering, I advised enucleation, which operation was satisfactorily effected under chloroform. After making the conjunctival section around the cornea, the opening of the capsule of Tenon to reach the tendon of the external rectus muscle allowed the escape of a quantity of dark fluid blood and indicated the location of the scleral opening, which an examination of the eyeball after its removal confirmed. The rent, which was a large flap, opening in the outer wall of the sclerotic, was located in the posterior hemisphere of the eyeball between the insertions of the external rectus and the oblique muscles. The source of hemorrhage was choroidal. The blood, after filling the eyeball and displacing the lens and vitreous body, which had escaped through the sclerotic rent, had freely effused itself into the orbital space, and by excessive infiltration had caused the extrusion of the eyeball.

This was the first case that I had ever diagnosed, in the absence of any visible wound, as posterior laceration of the sclerotic coat of the eyeball, and I was surprised at the facility with which the diagnosis could be made. The eyeball, full of blood, with excessive extravasation under the conjunctiva, accompanied by marked minus tension, made the diagnosis very positive of escape of some of the eye contents through a wound concealed from view.

I had been very much surprised on previous occasions at the amount of bleeding which could take place from a sclero-choroidal wound. In one, a case in which the eyeball had

been perforated by a fragment of iron over the insertion of the superior rectus muscle, I had much difficulty in checking the profuse bleeding from the wound, which saturated thick compresses. I was therefore quite prepared for the excessive extravasation in this case. The accident just reported, of posterior scleral laceration, was from a blow received through the lid upon the elastic eyeball, resulting in the giving way of the eye-coats at a point nearly opposite to that upon which the blow fell; clearly a case of laceration by counter stroke, and at a point where the eyeball is well supported by muscles as well as by the fatty cushion of the socket.

This accident was the sequel of a christmas frolic. In accordance with the experience of every surgeon who finds rare cases running in company, the day after New Year another case of eye injury nearly similar in its results was brought to the hospital dispensary for treatment.

Case 2.—J. F., aged 23, was wounded in the right eye under the following peculiar circumstances. He and a friend were discharging pistols at a mark. While the patient was loading his revolver his companion, standing near him, fired at a stone lying on the ground some ten feet in front of them. With the report of the pistol the injured man cried out that he had been shot, which remark caused much merriment, from the apparent impossibility of such an accident, as the shot had been fired away from him. Blood was seen, however, upon his face, oozing from a wound in the upper lid. The eye immediately commenced to swell. He complained of great pain, and said that his sight was knocked out. I saw him the day after the accident. The eyeball was very prominent with excessive ecchymosis of the conjunctiva, and with the anterior chamber full of blood. The pistol-ball in rebounding backward from the stone had struck the lid, but not with force enough to penetrate. The skin of the upper lid only was broken, and from it the blood had escaped. The eyelids were much stretched over the protruding eyeball, and a fold of discolored, chemosed conjunctival tissue seemed to fill up the palpebral cleft. I elevated the lid upon a retractor and found that there was no wound in the front of the eyeball, and yet upon palpation I found the tension very much diminished, so that I could corrugate the cornea. With the case of a week before fresh in memory, I

did not hesitate to make the diagnosis of posterior rupture of the sclerotic coat of the eyeball, and recommended immediate extirpation of the destroyed and painful organ, as the quickest means of obtaining relief from suffering, and safety for the other eye. Under chloroform the eye was enucleated. The eye-shell was found full of coagulated blood. Its normal contents had escaped through a large rent in the upper part of the ball, which opening extended backward from the insertion of the superior rectus tendon. The tendon of the muscle restricted the laceration to the posterior hemisphere of the eyeball and prevented the wound from being seen when the eye was examined before operation.

The laceration seemed to have started from the point of the eyeball upon which the blow impinged, and had extended directly backward. An explanation for this rare accident may be found in the fact that when the injury was received the wounded man was loading his pistol and was looking down toward his hand. He, therefore, had not only the eyeball well covered by the upper lid, but in the extreme downward movement of the eye a large part of the upper hemisphere was rotated forward and exposed to receive the blow. The pistol-ball must have been somewhat spent, as it only broke the skin of the lid ; but the blow was sufficiently sudden and sharp to indent the eyeball to splitting. and thereby make the rent through which the contents of the eye were projected into the socket and incarcerated within the cone of muscles.

These two cases, while rare accidents, at least as far as the establishing of a diagnosis is concerned, differ in the immediate cause of the rent. In the first case the laceration in the eye-coat was not in a portion of the eyeball brought immediately under the influence of the blow. When the man was struck in the face by the chair, the bruised temple, brow, and nose indicated that the blow was received directly across the eye, upon its front, through the medium of the lids. The common seat of laceration near the corneo-scleral juncture did not yield, although this was nearest to the surface receiving the blow. When the sudden flattening of the eyeball took place the rent occurred near the opposite pole of the eye to the one impinged upon. In the second case the rent started at the point receiving the blow, and extended backward in the direction of the posterior pole and at right angles to the so-called constant circular laceration around the corneal periphery.

SERIOUS EFFECT OF CALOMEL UPON THE EYE.

By F. C. HOTZ, M.D., of Chicago,

OPHTHAL. SURGEON TO ILL. CHAR. EYE AND EAR INFIRMARY.

In November a railroad employé, aged 38 years, consulted me for an affection of his right eye, which resembled in every feature an extensive burn of the ocular conjunctiva. The eyelids were red and swollen, especially the upper one, so much so, that the eye could be opened but very little. The conjunctiva of both lids was very red, succulent, and roughened by enlarged papillæ. The retro-tarsal portions of the conjunctiva protruded in two thick, succulent folds when the lids were everted; and the ocular conjunctiva was also intensely red and swollen, so that its limbus projected considerably over the surface of the cornea. But what attracted my attention the most was a large white crescent in the lower half of the ocular conjunctiva; its convex border reached down to the lower retro-tarsal fold; its concave border was parallel to, and about 4 *mm.* from the margin of the cornea. The horns of this crescent extended upward around the sides of the cornea, and, tapering off gradually, terminated in sharp points in the upper half of the eyeball. The surface of the crescent was markedly depressed below the level of the surrounding conjunctiva, and exhibited the whitish, dry, bloodless appearance of mortified tissue, which we usually find after a severe burn of the conjunctiva.

The lustre and transparency of the cornea were not disturbed; the iris, however, was discolored, the pupil was contracted, and dilated very irregularly under the influence of atropia, on account of numerous fine synechiæ.

Upon inquiring into the origin of this peculiar affection, I re-

ceived the following information: The patient's habits always had been very regular; he never had gonorrhœa or syphilis; and never had sore eyes. The present trouble began two weeks ago, without any known cause, with swelling of the eyelids, redness of the eyeball, photophobia, profuse lachrymation, and some pain in and about the eye. He took some medicine internally (which, according to the prescription, contained quinine and morphine); but no medical application of any kind was made to the eye until two days ago. On that day his physician prescribed powdered calomel, which the patient's wife dusted into his eye by means of a camel's-hair brush. He could not say how much calomel was thrown in the eye; but the application caused considerable pain, increased the flow of tears, and the tumefaction of the lids; and on the next morning his wife discovered on the eyeball a large white patch which, as she very positively asserted, was not there when she applied the powder on the preceding day.

Under proper treatment the iritis subsided quickly, and, after the elimination of the eschar, the extensive defect in the ocular conjunctiva was closed by cicatrization. At the expiration of three weeks the eye had recovered a normal appearance, with a regular and mobile pupil; the only evidence of the past trouble was a callous white scar in the ocular conjunctiva, below the cornea, with linear extensions around the sides of the cornea.

Remarks.—From the history of this case it is evident that originally the trouble was an acute iritis, with an unusual degree of chemosis. Upon a grave error in the diagnosis, calomel was prescribed, and its local application was followed by the lesion in the ocular conjunctiva so directly that the existence of a causal relation seems very probable. If the patient had been taking iodide of potassium, there would have been nothing remarkable in the unusually violent action of the calomel; for we know that under these circumstances it is converted into iodide and bichloride of mercury. But as the patient had taken only a quinine mixture, I suspected the calomel was not chemically pure, the more so, as it was not obtained of a first-class drug-store. The chemist who examined the calomel for me reported the presence of considerable free hydrochloric acid; and to my further question as to the chemical changes such calomel

might possibly suffer in contact with the lachrymal fluid, he replied that at the temperature of the human body chloride of sodium can convert a little calomel into bichloride of mercury, and that this alteration is greatly favored by the presence of free hydrochloric acid. The production of corrosive sublimate, of course, explains the caustic effect. When the calomel was dusted in the eye, I think the cornea was probably turned upward, and the powder was sprinkled upon the lower portion of the chemotic ocular conjunctiva, and afterward rubbed into it by the pressure and movements of the swollen eyelids. This would account for the fact that the cornea escaped unscorched, and that the caustic action was most severe upon the more dependent portion of the ocular conjunctiva.

TWO CASES OF MALIGNANT TUMOR OF THE SPHENOIDAL CAVITIES IMPLICATING VISION.

By JULIAN J. CHISOLM, M.D., of Baltimore.

WITHIN eighteen months two cases of malignant disease supposed to have originated in the sphenoidal cells have come under my observation, making four cases of this serious lesion which I have seen in the past ten years. In both of these last cases the disease seemed to have started on the right side of the bone, at the base of the skull. The eye complication was recognized as of post-ocular origin, and the lesion was located about the Sella Turcica, on account of the ophthalmoscopic appearances of the discs and the disturbed action of the eye muscles. In both cases the left eye became secondarily involved, both as to the functions of the optic nerve and the action of the muscles moving the eyeball. In each case the nose implication was subsequent to the eye trouble. The first action of the growth in its malignant development was to invade by bone expansion the optic foramen at the apex of the orbital cone, and impress the structures passing through this opening, then slowly involving contiguous parts, until both sides of the skull about the median line became affected. In both cases progress was slow, requiring many months for development. In each, treatment was unavailing to stop the steady growth of the disease, until one succumbed to the general poison, and in the other life seems to be rapidly ebbing away amidst severe torture, which morphia in large doses and frequently repeated

can scarcely mitigate. One case was in a boy 7 years of age, the other in a member of the medical profession aged 37 years.

While the two cases have this in common, viz., a malignant growth at the base of the skull, destroying sight, then developing in the direction of the face, filling the eye sockets, pushing out the eyeballs, invading the nares, and exhibiting a striking similarity in the disfigurement produced, there are symptoms peculiar to each. The youth suffered no pain whatever when the disease was making rapidly fatal progress; the older patient, on the contrary, has suffered severely from the very beginning of his trouble, and the intense agony of his every-day life has shown no mitigation. The younger case commenced with nausea and vomiting, with headache, before any other symptom could be detected. When attention was called to the eye for the rapid deterioration of sight, the cerebral symptoms of nausea and headache suddenly passed away. They did not return, although for 16 months the disease in its anterior development, filling up the face cavities with its cancerous growths, steadily progressed to a fatal issue. In the elder the nausea with vomiting appeared among the last symptoms, when sight had already been nearly destroyed, and when prominent growths were developing in the temple and in the roof of the mouth. In both cases the mind remained clear throughout. In both the disease extended from the right to the left side. In neither case was there any general paralysis nor any evidence of extensive encroachment by the growth in the direction of the cranial cavity. The loss of smell was secondary to that of sight in the youth, while it was retained in the older case even when the disease had invaded the left orbit and had reduced vision in this eye to recognition of large objects, sight in the right having been utterly destroyed by pressure upon the optic nerve. The youth suffered from an external squint with ptosis, the older with internal squint followed afterward by ptosis. In both the drooping of the lids of each eye became prominent.

Case 1.—P. S., aged 7 years, a very intelligent boy, was brought to the Baltimore Eye and Ear Institute by his father for treatment

April 24, 1879. His vision had very recently become defective. For some months he had suffered with headache, nausea, and, at times vomiting. The right side of the head was always the painful side, the left never annoying him. His sight had been defective for only two weeks. Vision in the right eye was most disturbed. It was the enlarged pupil of the right eye which had recently attracted the attention of the father, and had induced him to bring his son to Baltimore for treatment. The boy was well grown for 7 years of age, and from the promptness and intelligence of his answers seemed educated beyond his years. His general health was good. The natural expression of his face was somewhat disturbed by a slight drooping of the right lid and an external squint. Sight in the right eye did not exceed the recognition of large objects. No. xx of Jager's test type was the best that the left eye could do at one foot distance. An ophthalmoscopic examination exhibited a pallor of the discs, more marked in the right than in the left eye; also a clouding of the outlines of the optic papilla, which was so woolly in the right eye as to indicate a choked condition from postocular pressure. His physician had called the trouble one of optic nerve paralysis, and commenced a treatment with strychnia. No history of constitutional or inherited disease could be obtained. The early symptoms of nausea, vomiting, with headache, which had preceded for many months the defective vision, pointed to cerebral irritation, and intracranial trouble near the Sella Turcica was suspected. As the olfactory sense was perfect and the second and third nerve alone affected, the disease was diagnosed meningeal, and located about the chiasma, especially on the right side. The nature of the lesion could not be clearly defined, but a growth of some kind was suspected, and a treatment of iod. potash in full doses recommended, which the patient was to carry out in his distant home.

After an interval of two months the father of the boy reported by letter no improvement in the sight, but that the nausea and headache had disappeared very soon after the iod. potash treatment had been commenced.

April 24, 1880, one year to the day from the time of the first visit, the boy was again brought to the city for examination. He had been for some months totally blind. Sight had slowly left him, until all perception of light had vanished. He was altogether free from pain. He had a good appetite, and had not been nauseated for many months. His brain was clear, with bright intelli-

gence. The original source of trouble had during the year been made evident by the developing disease. His face was now deformed by the protrusion of both eyes—the left slightly, the right excessively. The right lids were very much distended, permitting the eyeball to protrude considerably beyond the bridge of the nose. Ptosis in both upper lids was marked. Both eyes were fixed in external squint, but not to any excessive degree. In extrusion the eyeball, of normal appearance, with dilated pupil, clear cornea, and white sclerotic, was pushed so far forward and toward the temporal side, that the optic-nerve entrance seemed to be in front of the orbital margin. The ophthalmoscopic examination gave white discs, with good-sized retinal vessels and media perfectly clear. The disc outlines were now sharply defined. The tip of the finger, introduced between the eyeball and orbital rim, detected an elastic mass, which filled the right socket. A similar mass could be felt on the nasal side of the left socket. The patient complained of inability of breathing through his nostrils. He had lost the sense of smell, and, to a large extent, that of taste. Inspection of the nostrils showed the meati plugged up by a red growth, which came near to the external orifice and protruded slightly from the posterior nares. The diagnosis was now made of malignant growth starting in the sphenoidal cells of the right side, first causing cerebral irritation with headache and nausea, then encroaching on the right optic foramen, making pressure interference with the optic nerve, first on the right side, and later on the left. Then developing by continuous growth in the direction of the face rather than toward the cerebral cavity, the cancer had filled the sockets and the nasal spaces, surrounding the eye muscles so as to stop their action, and causing the exophthalmus as well as the ptosis. The general functions of his brain and his digestive organs seemed to be in good working order. He ate well, slept well, and suffered no pain whatever. His father was advised of the hopeless condition of his son, and no treatment suggested.

June 14, 1880.—Six weeks from the date of the second visit I received a letter from his family physician announcing the death of the boy. From the letter I make the following extracts: "Death apparently came from exhaustion and septic poisoning. The eyeballs protruded excessively in hideous deformity. Bleeding fungous masses protruded from each nostril, and also could be seen behind the palate. These emitted a most offensive odor.

His hearing was only implicated a few days before his death. The most wonderful part to me was the total absence of all pain. I was not able to make a *post-mortem* examination."

The *second case* was that of Dr. H., of Michigan, aged 37 years. He consulted me April 29, 1881, to see if I could restore sight to the right eye and relieve him of severe pains on the right side of the head. He had suffered severely for several months. The pain was not constant, but during the paroxysms it was scarcely bearable. Besides the atrocious pains of the right eye and right temple he had also a painful throbbing in the right ear, with defective hearing. Quite recently the sight of the right eye had failed, and he had acquired a very ugly internal squint in this right eye. Upon examination of the eye movements it was found that while there was paralysis of the external rectus there was so marked a degree of irritation or spasm of the internal rectus of the right eye that he could not relax it, so that the pupil was fixed at the inner canthus in a 4-degree squint. He complained of a want of proper feeling over the right side of the face, implicating the fifth nerve. The right eye was very amblyopic, and the ophthalmoscope revealed a pale disc for this right eye. The vision in the left eye was normal. He could find no cause for his suffering and denied having any syphilitic infection. With the impression that the trouble was meningeal iod. pot. was prescribed in large doses. He had for some time used liberally hypodermics of morphia to assuage his pain and give him sleep.

Oct. 1st.—Five months after the first examination, Dr. H. came again to consult me concerning his case. I found him very much changed in appearance and with a countenance indicative of severe and long-continued suffering. Except when under the effects of morphia his pains have been excruciating. Recently he has been troubled much with nausea and vomiting and has also bled from the nose. In the right eye he has now lost all perception of sight, and vision has become so defective in the left eye that he can only see the outline of large objects. An ophthalmoscopic examination shows pale discs, but to no marked degree, while the vessels of the retina are but little shrunken. Ptosis has existed for some time in the right lid, and more recently the left lid has also drooped. In the right eye the former marked squint has disappeared, very little of it remaining. The eyeball is quite prominent, and seems fixed in its exophthalmic position by paralysis of all of its muscles, so that it possesses no movements what-

ever. The pupil of this right eye is widely dilated. The left eyeball is also much impeded in its motions. The tip of the finger inserted between the eyeball and the rim of the orbit detects in all directions an elastic mass or growth which has filled up the right socket. A similar growth can be felt in the left socket, especially toward the nasal side. None could be felt on the temporal side of the left orbit. He has lost all of the teeth in the upper jaw, and in the mouth cavity has recently appeared a very decided swelling under the mucous membrane of the palatine roof, right side, both of superior maxillary bone and palate bone. He still retains the sense of smell. A decided fulness is seen in the right temple under the temporal facsia which disfigures by giving great breadth to the right side of the head. Common sensation is nearly abolished on the right side of the face. While the facial nerve of the right side of the face retains its full action, hearing in the right ear is altogether lost, due to mechanical interference with the right Eustachian tube. The yellowish hue of the skin of the face exhibits the facies of malignant cachexia in a marked degree. His mind is clear, control over his limbs perfect, and has exhibited no paresis beyond those mentioned in the eye muscles from the invasion of the posterior portions of the orbit by the malignant growth. He recognized the hopelessness of his case, and was quite prepared for the diagnosis of malignant tumor rapidly advancing toward a fatal issue. The history of the case would point to the spheroidal cells as the origin of the growth, first involving the structures at the right optic foramen, and in its development implicating the left side of the Sella Turcica.

A CASE OF SEVERE INJURY OF THE ORBIT.

By Dr. E. L. HOLMES,

ATTENDING SURGEON; AND

Dr. ROSWELL PARK,

ASSISTANT SURGEON TO THE ILLINOIS CHARITABLE EYE AND EAR INFIRMARY.

O. J., a boy 14 years of age, was brought from Wisconsin to the dispensary of the infirmary, June 13, 1881, with the following history of an accident which happened eight months before.

A piece of pine wood, thrown with great force from a rapidly revolving circular saw, penetrated the left orbit, through the middle of the lower lid. The local surgeon succeeded in removing only a few splinters.

An examination revealed a small fistulous opening, surrounded with polypoid granulations, in the integument of the lower lid; also a similar growth at the lower border of the cornea, with considerable redness and œdema of the lower part of the ocular conjunctiva. The contracted pupil and cloudiness of the cornea prevented a precise diagnosis of intra-ocular changes. There were slightly diminished tension of the globe, great loss of vision, with some tenderness and swelling of the side of the face, and impediment in the motion of the jaw.

It was difficult to determine, by probing, the direction in which the piece entered the orbit or from which the discharge came.

After the administration of ether, an incision was made along the border of the orbit through the integument at the fistulous opening. The finger could then detect a piece of wood firmly surrounded at its lower end by hard tissue. This piece extended upward between the conjunctiva and sclerotic to the lower border of the cornea. A careful examination seemed to demonstrate that the other portion of the stick extended into the antrum. And

yet there was no history of discharge of blood or pus from the nostril. The free end, lying between the conjunctiva and sclerotic, was easily removed through the incision in the lid, but broke off close to the bone. It measured an inch in length, an eighth of an inch in width, and a sixteenth in thickness.

A careful examination with the tip of the finger disclosed a small piece of wood corresponding to the piece broken off, but held firmly by the products of inflammation. It seemed to extend directly downward. As an operation involving other tissues than those of the orbit appeared necessary, the case was placed under the charge of Dr. R. Park. No theory seems satisfactorily to explain how the piece behind the conjunctiva was at a right angle to the "stick" finally removed by Dr. Park.

SUBSEQUENT ACCOUNT BY DR. R. PARK.

It having been the unanimous opinion of all who first saw the case that a comparatively small sliver of wood probably extended into the antrum, I proceeded to try to effect its removal. Accordingly, the following day, having anæsthetized the boy again, I prolonged the incision made by Dr. Holmes toward the inner canthus, and then down the side of the nose. Reflecting the flap thus made I perforated and entered the antrum. Prolonged exploration with the finger and probe failed to reveal the splinter. I again explored the orbit and could grasp the piece with the forceps, but not tightly enough to remove it, nor could I convince myself as to its exact position, since the swelling from inflammation and the previous operation interfered materially with any search.

In the meantime over an hour had elapsed: the parts being very vascular, the boy being weakened by free hemorrhage and two consecutive operations, and, moreover, beginning to tolerate his anæsthetic badly, it was decided to postpone further operative measures. Accordingly, a drainage tube was inserted into the antrum; the incisions were closed with silk sutures, and covered with dressings of cold water and alcohol.

The incisions healed well, though there was copious discharge from the tube. The boy's mother being anxious to take him home to avoid expense she was allowed to leave with him one week after the operation, with directions as to his care, and especially as to keeping me informed as to his condition.

Twice during September I heard that there was still discharge from the drainage tube which had been allowed to remain.

Finally, after some further correspondence, he came to the city in November, or about five months after his first visit.

Status præsens.—The tube having been removed a month before, the lines of my incision are all healed, and with surprisingly little cicatrix. There are more or less swelling and induration of all the tissues of the temporo-facial region. The mouth can only be opened to extent of three fourths of an inch ; there is more tenderness over the left temporo-maxillary articulation than anywhere else. There is a sinus at the site of the original injury, through which a curved probe passes downward and backward more than an inch without touching diseased bone. There is a fistulous opening on the left side of the soft palate, close to the hard palate. There is discharge from both these openings. According to the mother there has at several different times during the summer been a discharge from the left ear. There is now no visible opening or perforation of the membrana tympani through which it could have come. H. D., left ear,=$\frac{15}{30}$; right ear,=$\frac{30}{30}$. Membrana tympani is slightly thickened ; light spot irregular. There is coloboma above from simple atrophy of iris structure. This condition gives the pupil an oval slit shape. Media cloudy ; details of fundus invisible. The patient counts fingers at 6 inches if held above the level of the eye. The globe is almost immovable in the orbit, held so by products of inflammation.

Nov. 17, 1881.—With the assistance of Drs. Curtis, Tilley, and others, the boy being under the influence of chloroform (with 1 per cent. of amyl nitrite), I proceeded as follows : I first plugged the left posterior naris, and then laid up a flap of the cheek by a curved incision from the outer angle of the orbit to the angle of the mouth. Coming thus upon the site of the operation five months previous I found the antrum pretty well filled up with granulation tissue. A probe could now be passed downward and backward and through the fistula in the soft palate. Finding nothing in the antrum I then removed, with chisel, saw, and forceps, the inner half of the malar bone and almost all the floor of the orbit ; taking care, as far as possible, to peel off the periosteum before attacking the bone. Probing and searching toward the nasal side of the orbit I found nothing suspicious, and had begun to despair of finding any thing to reward my efforts. I resolved, however, to work outward, and removing more of the malar bone and outer wall and floor of the orbit, I at last touched with the probe something which felt very much like wood. Clear-

ing away the bone a little more, I caught with strong forceps and with some force extracted the foreign body. This was a piece of pine 2½ inches long, and ½ inch square at its base. It had been lying with its anterior extremity engaged on a level below the infra-orbital ridge, and on the external surface of the orbit; its posterior extremity, judging from its length and now evident direction, was engaged just in front of the maxillary articulation. In its entrance and course it must, therefore, have penetrated the infero-exterior wall of the orbit; having been thus lodged with one end in the orbit, the other in the zygomatic fossa, and lying across the outer extremity of the spheno-maxillary fissure.

On further examination finding no other fragments I curetted the fistulous tracks, and then united the edges of the flaps, after inserting a drainage tube. The progress of the wound was satisfactory in every particular.

On Dec. 22d., the patient returned to his home. His condition at that time was as follows: Line of incision entirely healed. No change in condition of parts within the globe. The eye is now freely movable, and its movements follow those of the other eye quite accurately, except upward. Its upward motion is interfered with by a condition of ectropion combined, with a band of granulation tissue, forming a species of symblepharon. The ectropion is caused by the cicatrix following the injury and the operations. At some time in the future a plastic operation may be made for its partial relief; it was thought best to postpone this for a few months. Region supplied by the infra-orbital nerve entirely anæsthetic. V=fingers at 5 ft. in good light. Hearing distance, left ear, $\frac{8}{10}$.

TUMOR OF LACHRYMAL GLAND.

By JOSEPH A. WHITE, M.D.,

SURGEON-IN-CHARGE OF THE RICHMOND (VA.) EYE, EAR, AND THROAT INFIRMARY.

AS tumors of the lachrymal gland are not very common, these few notes from my case-book in relation to the successful removal of such a growth may be of some interest.

Mrs. E. Pye, a German lady, 60 years of age, has had a gradually increasing swelling at the outer part of the left upper eyelid for more than a year. Of late its increase has been more rapid, the eye being pushed down and toward the nose, so that it is now (May 1, 1881) difficult to close the lids over it. At times the eye is quite painful and tender to the touch, is inflamed, and has a constant muco-purulent discharge. V = $\frac{20}{200}$ both eyes, with + $\frac{1}{8}$. *R.*, V = $\frac{20}{30}$, with + $\frac{1}{10}$. *L.*, V = $\frac{20}{60}$. Ophthalmoscope shows left optic nerve to be quite reddened, with hazy outline and large tortuous veins.

The case was evidently one of lachrymal gland tumor. On May 13th I removed the tumor through an incision made along outer third of edge of orbit, just below the brow. It was dissected out with probe-pointed bistoury and scissors. It was firmly attached above to the periosteum and below to the conjunctiva, and extended far back into the orbit, pressing upon the optic nerve. It was removed intact, was ovoid in shape, measuring one and a quarter inches in its long and three quarters of an inch in its transverse diameter.

Very little bleeding followed the operation. The wound was closed by stitches, leaving a small drainage tube at outer angle.

Though there were considerable ecchymosis and swelling of the

eyelids and cheek, the wound healed kindly, and required little after-treatment. Three weeks later it was entirely healed; the eye had returned to its position, its movements were free, the vision the same as before the operation, and the lid drooped slightly.

It is now six months since the tumor was removed, and the most careful examination can detect no signs of a recurrence; the eye and lids are perfectly normal, both in appearance and motion, and the vision has improved to $\frac{20}{20}$, with $+\frac{1}{10}$. My friend, Dr. Swan M. Burnett, of Washington, who, during the meeting of the American Medical Association, had examined the case, requested me to send him the tumor for microscopical examination when I should remove it. I sent him the specimen, and am indebted to his kindness for the following description of the tumor.

Microscopic appearances, by Dr. Swan M. Burnett, Washington, D. C.

The tumor is far from uniform in its histological structure. The connective-tissue element is rather abundant in some parts, while in others it is very scant or entirely wanting. The cellular element, which is largely predominant, is likewise irregular in its distribution. It consists of rather large round cells, with very thin cell-walls and large, granular nuclei. There are other cells smaller, with small or no nuclei, which are distributed in somewhat large collections throughout the tumor mass. The characteristic form of myxomatous tissue is seen in abundance in all parts of the specimen. Cylinders and alveoli lined with cells in the characteristic arrangement of adenoma are met with, particularly near the centre of the sections passing through the tumor in a transverse direction. The *remains* of those structures are quite abundant, but in only one or two places have I been able to find them entirely intact and in any thing like a normal condition. The alveoli are often filled with a hyaline mass (Becker), less frequently with round cells or granular matter.

From these appearances I think we are justified in describing the tumor as a *myxo-adeno-sarcoma*. From an examination of this specimen alone it would not be possible to trace a general history of such tumors, but it tends to confirm

the opinion of Becker[1] that all the forms of tumor of the lachrymal gland hitherto described are but different stages of the same morbid growth. It seems likely that they all begin as adenomas and that the various forms of degeneration—myxomatous, sarcomatous, colloid, encephaloid, etc. —come on later. The appearances in this specimen differ from that of Becker's in this, that the degeneration was greatest toward the periphery, while in his the periphery appeared the more nearly normal.

[1] Ueber das Adenom der Thränendrüse—Bericht über die Augenklinik der Wiener Universität, 1863-65.

PRELIMINARY PAPER ON THE DETERMINATION OF A STANDARD OF COLOR-SENSE FOR REFLECTED COLOR BY DAYLIGHT; WITH A GRAPHIC DESCRIPTION OF THE INDIVIDUAL LIMITS AND AVERAGE RESULTS OF SIXTEEN CASES.*

By CHARLES A. OLIVER, M.D., of Philadelphia.

I HAVE been induced to endeavor to determine a standard for normal color-sense for reflected[1] color, because, as far as I am aware, no method independent of my own, has been devised by which minute and mathematical change in the size of the color has been made,—thus avoiding the necessity of either the gross division of the areas of color to be seen at a fixed distance, which must give rise to very imperfect computation; or the use of a certain fixed ratio of color to be perceived at variable distances, which, for many reasons, will give faulty results. In the method to be proposed, I have adopted an instrument capable of accurately exposing known areas of reflected color[2] to an eye placed at a designated distance.

The rules for the selection of cases, and of the order of examination being:

* It was thought advisable to publish this limited number of cases, for two reasons: 1, as an explanatory article, giving the methods of working and tables in full, so that others may continue the method, and thus rapidly augment the number of cases to a sufficient quantity to average a correct standard, as the author is convinced this is the only proper way to obtain accurate results; and 2, to avoid too bulky an article in his intended future publication, which, by this plan, can be reduced to a summary, in a tabular form, of the average results of the examination of one thousand eyes.

[1] The author is engaged in a series of similarly conducted experiments with *transmitted* light, which he intends for future publication.

[2] Description in the Archives of Ophthalmology, 1881, vol. x, No. 4, p. 438.

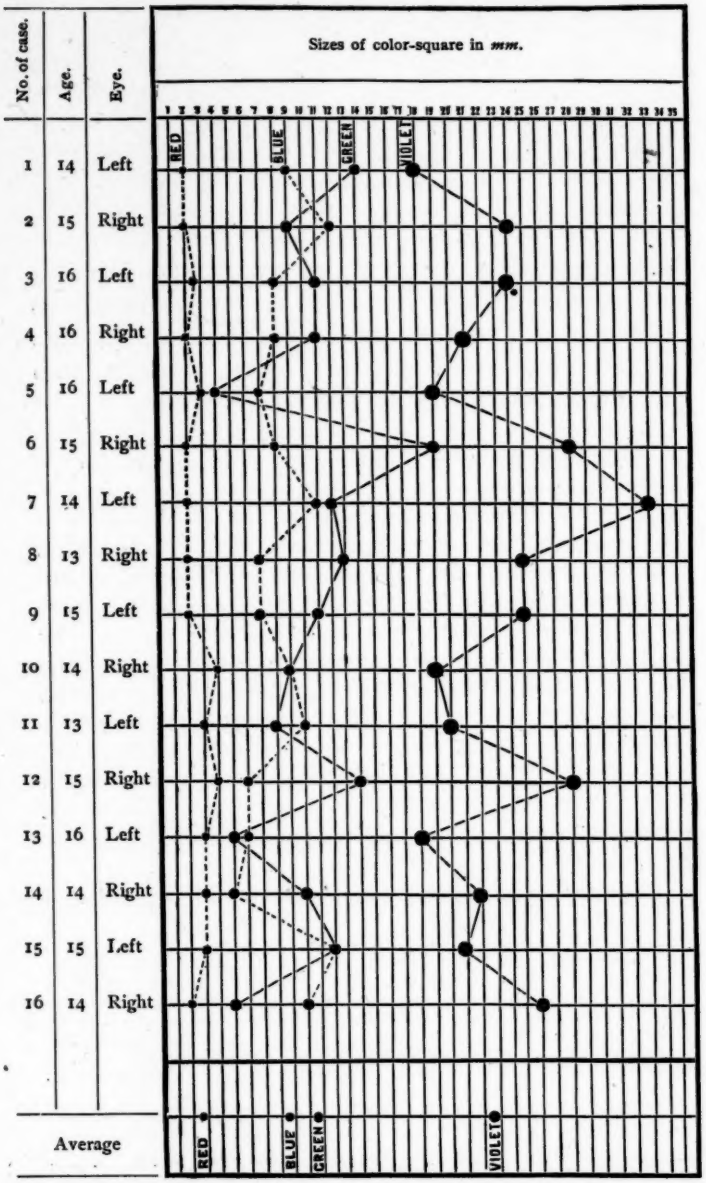


TABLE A.—Showing individual limits and average standard of color-perception metres, distance in sixteen healthy young male students, possessing both normal vision

Condition of nerve.	Refraction.	Grade in school.
Superficially capillary, gray beneath	H. — 1D.	Second year
Superficially capillary, gray beneath	Ah. — 0.50 D.	Third "
Reddish gray	E.	Third "
Decidedly gray	Ah. — 0.50 D.	Fourth "
Dirty red-gray	E.	Third "
Red-gray	Ah. — 0.50 D.	First "
Fair color	Ah. — 0.50 D.	First "
Grayish	E.	First "
Grayish	Ah. — 0.50 D.	First "
Good color	E.	First "
Slightly reddish gray	E.	First "
Fair color	Ah. — 1D.	Third "
Superficially capillary, gray beneath	Ah. — 1D.	First "
Very good color	H. — 0.50 D.	First "
Prominent 1.–1.500 D.	H. — 0.50 D.	Third "
Slightly off color	Ah. — 1D.	Third "

during daylight for the four reflected colors, red, green, violet, and blue, at five for form and proper appreciation of color.

1. Young, healthy, intelligent male students possessing normal vision for form.[1]

2. Possibility of color-blindness expunged by previous examination with Holmgren's skeins of worsted.[2]

3. All the subjects placed in the same condition in reference to position, light, and time of day.[3]

4. Color-perception taken first, then accommodation, and lastly ophthalmoscopic examination.

5. Each subject examined separately, and promise obtained not to divulge method of examination.

6. A color-sense measure used, so contrived as to give exact and mathematical increase of reflected color.

7. The eye *first* examined was the only one employed in the table, alternate eyes being chosen.

The reasons for such rules must be obvious. By them, I have endeavored by the process of exclusion to obtain as nearly a perfect human color-seeing organ as possible, and place it under the most favorable conditions in reference to its customary stimulus; avoiding any fatigue by not taking it all at once; using an instrument capable of fine differentiation, and excluding any possibility of previous knowledge of the colors, by making use only of the eye first examined.

During the course of the experiment it was observed:

1. Individual limits for the same color varied considerably, although all the conditions remained identical.

2. In all instances the observed color went through an almost regular series of changes before it was correctly perceived. These gradations were so regular that a table of the average changes has been constructed.

3. In many instances quantitative color-perception for the second eye of the same subject appeared to be comparatively stronger, bearing no relation to the eye itself, evidently entirely dependent upon previous knowledge.

---

[1] Tested several days previously.

[2] Tested several days previously.

[3] Reflected sunlight. The subject with his back to the direction of light, was placed five metres from the measure, which was exposed to reflected sunlight of sufficient power to give nearly $\frac{6}{6}$ vision for form. As yet these investigations have been limited to daylight, because this being the ordinary stimulus in use, results obtained with it, must be of greater value than those obtained by the employment of other sources of illumination.

TABLE B.[1]

SHOWING CHANGES IN COLOR AT FIVE METRES' DISTANCE.

RED.	GREEN.	VIOLET.	BLUE.
Reddish dot, $1\frac{1}{2}$–2 *mm.*	Bluish spot, 3 *mm.*	Dirty gray spot, 2 *mm.*	Dark bluish spot, 5–8 *mm.*
Red, 2–3	Light blue, 4–6	Lighter gray, 4–8	Blue, 8–9
	Greenish blue, 6–8	Yellowish tint, * 8–12	
	Light green, 8–10	Yellow, * 8–12	
	Pure green, 10–11	Pinkish, 8–22	
		Violet, 22–23	

* Not universal.

4. Paradoxically, the objective condition of the nerve appeared to bear little if any relation to the perception of color.[2]

Conclusions:[3]

1. The standard of quantitative color-perception for reflected red by daylight at five metres is $2\frac{19}{32}$ millimetres.
2. Idem for green is $10\frac{9}{16}$ millimetres.
3. " " violet is $22\frac{9}{16}$ "
4. " " blue is $8\frac{13}{16}$ "
5. Each color passes through a regular series of changes before being correctly seen.
6. All other conditions being equal, no two individual eyes possess exactly the same amount of quantitative color-perception for reflected color. *Hence, a standard of color must be used.*

I here desire to express my thanks to Dr. J. F. Holt for his assistance in procuring the proper class of subjects.

[1] Compare with table in abstract of article by Cohn, ARCHIVES OF OPHTHALMOLOGY, vol. ix, No. 1, pp. 68 and 69.

[2] The author does not feel justified in placing this curious anomaly of results amongst the conclusions, as sufficient data have not been obtained.

[3] These should not be accepted as final.

A CASE OF CONGENITAL DEFORMITY OF THE OPTIC DISC.

By Dr. THEODORE WIETHE,

Assistant to Jeager's Clinic in Vienna.

Translated by William C. Ayres, M.D., New York.

(*with Plate* I.)

THE following case of unilateral congenital deformity of the papilla, with normal vision, will be found of interest on account of its rarity.

Caroline W., age 62, had been healthy all her life, with the exception of typhus fever at 30, and recently an attack of pneumonia. She menstruated at 13 regularly and without pain; during 12 years of married life bore three healthy children. At 52 climacterium occurred.

In the middle of January, 1881, she had croupous pneumonia on the right side, which was cured. Up to this time she saw equally well with both eyes, not having been aware of any ocular defect. During the above attack she had severe pain in the right eye, and pain in the right side of the head induced by frostbite; also pain in the nose, the alveolar process, and in the right half of the galea aponeurotica, extending to the back of the head. It returned regularly every two days, increasing in violence. The right eye was simultaneously obscured, and its sight rapidly declined. The left eye remained intact.

Status praesens.—Patient of middle size, delicate frame; hair blonde, eyes blue. Internal organs normal, symptoms of chronic glaucoma in right eye, marked development of "abdominal" vessels, slight ciliary injection, tissue of iris indistinct. Pupil dilated with bottle-green reflex; reaction slight. No cataract, but the images from the posterior capsule not distinct. + T 2; central vision $\frac{8}{200}$. Hm $\frac{1}{10}$. F normal. Color perception for larger surfaces normal. Perception of light $\frac{1}{11\frac{1}{2}}$ (by 25 □ *mm.*). The

fundus can not be seen distinctly, nevertheless it could be ascertained that there was no excavation.

Left eye H $\frac{1}{\infty}$, V = $\frac{20}{30}$ (Snellen); reads Jaeger No. 2 with the proper glasses. F normal. Color perception normal. No scotoma. Perception of light normal (L = 1, with 1.4 □ *mm.*). Pupil black, acts promptly, media transparent. T normal.

Ophthalmoscopic examination showed papilla round, with a small flattening on the temporal side; but within its area were two black or olive-green depressions, with elliptical contours (see plate 1). They were both in the substance of the optic nerve, near the scleral ring. One was situated at the nasal end of the horizontal diameter of the papilla, and had its long axis vertical; the other at the lower end of the vertical diameter of the papilla, with its longer axis horizontal. The first depression measured in its long axis $\frac{1}{4}$, and in its short axis $\frac{1}{8}$ the diameter of the papilla. The dimensions of the second were, long axis $\frac{1}{3\frac{1}{4}}$, short axis $\frac{1}{8}$ diameters of the papilla. The bottom of the first was seen with $-4\frac{1}{2}$ D or $-\frac{1}{4}$, corresponding to a depth of 0.84 *mm.* The bottom of the second was obscured by a delicate grayish veil, so that an accurate determination of its depth was not possible; nevertheless from the parallactic displacement of its edges in the inverted image, the condition of its surroundings and the course of the vessels, it was plainly shown that it was a depression, and not a simple pigmentation or elevation.

Before we go to a closer examination of the depressions we shall first describe the condition of the blood-vessels.

The central artery entered somewhat above the middle of the papilla, and divided itself on the surface of the nerve into the art. papillaris inf. and sup. (Magnus). The art. pap. sup. divided on the papilla into the art. temp. sup. and nasal sup., which last sent a horizontal branch toward the inner depression, passing over it near its upper edge.

A branch of the art. papill. inf. passed over the lower depression, but was slightly bent into it, the bend being covered with a fine grayish veil, but continued its way downward and inward on the level of the papilla. The art. pap. inf. itself made a sharp bend downward and sank into the depression, passed over the vena pap. toward the scleral ring, after crossing which it ran out into the retina.

The course of the veins up was much more complicated. The entrance of the vena pap. sup. was to the side of the artery, but at the same level. It had no relation with the two depressions. Just at its entrance a small vein passed downward toward the lower depression, but midway between the entrance and the depression it gave off a branch twice as large as itself, which ran directly toward the macula lutea. On venous pulsation this communicating vein raised itself above the level of the papilla. In this its volume is increased out of all proportion, and showed itself to be the inferior papillary vein, the highest point of which was below the level of the papilla. At the upper edge of the

lower depression (where the inferior pap. artery passed over it) it suddenly disappeared.

A little further on in the same direction a large vein came out of the bottom of the depression. At first it was covered by a grayish veil, which became thinner and thinner, until the vein was free; from its size and direction, accompanying the artery (which it often crossed like the thread of a cork-screw), it must be considered the inferior papillary vein. Shortly before it came out of the depression it sent off a small twig over the artery outward, which disappeared into the depth of the depression; this acted like a snare, and pulled the artery down.

There are two other veins to be mentioned in connection with the depression, which belong to the lower pap. vein. The one of these came suddenly out of the depth of the depression at its inner and lower border, and ran about one diameter of the papilla into the retina. It was accompanied by a delicate artery. The other vein came out of the papilla, near the upper outer edge of the depression, and sent off two branches toward the macula and one toward the depression, which passed into it, and was lost in its deeper parts.

The sides of the depression itself were steepest above, less so at the two ends of the longer axis, whereas near the scleral ring the descent was gradual. The deepest part corresponded to the entrance of the vena pap. inf. By measurement in the direct image it was shown that where the veil was thickest it was 0.47 *mm.* below the level of the papilla, but the bottom of the depression was still somewhat deeper. The temporal side was deeper than the rest, while along the scleral ring there was a gradual change from the level of the papilla.

In the same way that the inferior papillary vein, etc., came out of the lower depression, another equally as large as either of the papillary veins emerged from the upper one. It ran inward toward the nose. By focusing for the depth of this depression we could see another smaller vein, which sent off three branches respectively upward, inward, and outward. Only the upper one of these was to be seen throughout its entire length; it came from the depth of the depression, and passed over the arterial branch, which crossed the deformity as seen before. Those which ran inward and outward were lost sight of at the edge of the depression, passing under the tissue at these points. The form of this depression was a somewhat more eccentric ellipse. Its depth as before noted was 0.84 *mm.* Its sides were steep, especially toward the nose. When the light fell on the bottom it looked light-gray.

Besides these there was a slight partial physiological excavation extending outward from the entrance of the central vein.

The scleral ring was of equal width all around the nerve, and the remainder of the fundus was normal.

The explanation of this rare condition is very difficult. We

could hardly look upon it as a pathological defect, since a partial atrophy of the optic nerve gives an entirely different ophthalmoscopic picture, nor could such an atrophy produce depressions of such depth. A destruction of optic-nerve fibres by local hemorrhages must also be excluded, on account of the functional examination of the eye.

It is interesting to note that all this had occurred in the good eye, while in the glaucomatous eye there were no such peculiarities.

I think we are justified in considering it a congenital deformity, even if it is on one side only, since other congenital defects, such as pigmentation of the papilla, physiological excavations and elevations, and even colobomata of the sheath of the optic nerve, sometimes occur unilaterally. It is much more difficult to give an explanation of the production of such a condition.

An abnormal transparency of the optic-nerve fibres would not have such sharp contours. A separation of the nerve fibres showing a pigmented lamina cribrosa below would be elliptical, with its longer axis placed radially, while these stand exactly perpendicular to this position.

Might it be possible that we had to deal with the remnant of the fœtal ocular cleft, limited to the optic nerve entrance? We know that the closure of this cleft takes place from in front backward, so that the part closed last is at the papilla, though in our case the scleral ring was not included in the defect, as is always observed in colobomata. We know further, that as long as the cleft remains open, the blood-vessels are situated in the groove of the optic nerve, and for a long time remain as foreign bodies in the nerve, and it is from them that the first effort toward a closure is frustrated. In this case we see large blood-vessels coming directly from the depression. Even under such an explanation in our case the excavation on the nasal side would still be unaccountable for, since its position forbids us to consider it as having any thing to do with the fœtal fissure.

In spite of all this, I think, we cannot dismiss the supposition that the condition under consideration was the result of an arrest of development.

FOUR AMERICAN TEXT-BOOKS ON OPHTHALMOLOGY.*

Reviewed by SWAN M. BURNETT, of Washington, D. C.

Seeing four new American text-books on ophthalmology on our table brings forcibly to our mind the old adage, "It never rains, but it pours." From the birth of modern ophthalmology to the present time, the American student has had to rely entirely upon foreign authorities for the ground-work of his knowledge of diseases of the eye, if we except the small handbook of Dr. H. W. Williams, published some years ago. A text-book which should thoroughly and correctly represent the status of ophthalmology in America is a want that has, no doubt, "long been felt," and the idea of supplying the want, after the lapse of so many years, seems to have seized simultaneously four surgeons practising in the three great American cities of New York, Philadelphia, and Boston.

The first thought that would most probably strike a foreigner about to examine these works, would be whether they in any way represented so many "schools," in the sense that we speak of the Vienna and Berlin schools of ophthalmology. Even a casual examination would show him that there is nothing of the kind, and for the matter of that, nothing which could be called distinctively "American." They have all drawn sustenance from the mother of modern ophthalmic science—Germany—and, the small leaven of

* 1.—A Treatise on Diseases of the Eye, by Henry D. Noyes, A.M., M.D., etc., pp. xi x., 360. New York: Wm. Wood & Co., 1881. (No. 12 of Wood's Library of Standard Medical Authors.) Price, $12.00 a set of 12 volumes of said library.

2.—The Diagnosis and Treatment of the Diseases of the Eye, by Henry W. Williams, A.M., M.D., etc., pp. xii x., 464. Boston: Houghton, Mifflin, & Co., 1881. Price, $4.00.

3.—A Manual of Ophthalmic Practice, by Henry S. Schell, M.D., etc.. pp. 263. Phila.: D. G. Branton, 1881. Price, $2.00.

4.—A Manual of Diseases of the Eye and Ear, for the Use of Students and Practitioners, by W. F. Mittendorf, M.D., etc., 2d edition, pp. viii x., 432. New York: G. P. Putnam's Sons, 1882. Price, $4.00.

native labor has not yet had time to leaven any considerable portion of the whole lump. Of this, however, we have no need to despair. The time must surely come when our contributions to ophthalmic science will be second to none. This is not vainglorious boasting, but is only the legitimate following out of the law of the intellectual growth of nations. The four books before us are one of the signs of this growth.

Neither of the works before us is a model text-book—far from it. To write a model text-book requires a genius for that particular kind of work,—a mind which instinctively seizes upon the important and essential points, and leaves out that which is unnecessary and only confusing; a mind in other words, which crystallizes the existing knowledge of the subject. Each of the books under review has its peculiar points of excellence. Dr. Noyes' book is the most original, Dr. Williams' the most carefully written, while Dr. Mittendorf shows most industry in working up the literature of his subjects, and his book possesses the still further advantage of containing a treatise on diseases of the ear. The chief merit of Dr. Schell's work is its compactness and its low price. Aside from this, there are certain chapters in each on which the author has evidently bestowed a labor of love. Thus, we are sure Dr. Noyes has interested himself specially in affections of the muscular apparatus of the eye, while Dr. Williams is strong on inflammations—particularly of the anterior portion of the ball. Dr. Noyes has also given, very properly, much space to the consideration of anomalies of refraction and accommodation. This chapter is also very well worked out in Dr. Williams' volume.

If the publishers should, at any time, see the wisdom of issuing a new edition for the special student of ophthalmolgy, we are sure Dr. Noyes will correct a few errors which have not escaped our notice. It is rather a loose statement that "two per cent. or less" of women are color blind (p. 17). No examiner we have any knowledge of has ever placed the percentage as high as one. Probably one quarter of one per cent. would be more nearly correct. The cornea is *not* "the section of the large end of an ellipsoid" (p. 45). It is, on the contrary, if the measurements of Senff, Knapp, Donders, Mauthner, and others are to be relied upon, a section of the *smaller* end of an ellipsoid, that is, the end corresponding to the major axis. To give no other cause for irregular astigmatism than to say that it is "caused by opacity of the cornea or lens" (p. 69), is to mislead the reader

entirely. We are sure Dr. Noyes does not need to be told that the most common cause for irregular astigmatism is a want of homogeneousness and a difference in the refractive power of the different sectors of the lens. It also arises from irregular refraction of the cornea, caused usually by a difference of curvature in different parts of the same meridian. Corneal and lenticular opacities, unless they cause abnormal curvature, cannot in the strict sense of the word be said to produce irregular astigmatism. The image formed by the clear portion of the refracting body may be quite free from any kind of irregularity, but its clearness of outline will be marred by the diffusion of light caused by the semi-opaque spot. In speaking, too, of the production of regular astigmatism by the lens he refers to its want of homogeneousness, which is, to say the least of it, a questionable cause, and does not mention its oblique position, which was the cause first assigned for this anomaly by Young himself. There are some oversights in proof-reading, which will also be corrected, as, for instance, on p. 48, where 5 D is used and 0.5 D is meant. But of all the four books Dr. Noyes' is the one which the special practitioner will be likely to consult most, since he has given more marked attention to those points in which the practising oculist is most interested. On the contrary, the student would probably find any one of the others better for his purposes, on account of their better systematic arrangement and their conciseness,—if students will still insist on having things put to them in a nutshell. The crudeness of style of Dr. Mittendorf's book is quite a drawback to it, but we observe some improvement, in this respect, in the second edition, and we confidently expect, from its energetic author, still further improvement in future editions.

Of the mechanical "get up" of the volumes, that of Dr. Noyes' is the worst; because it is one of a cheap series. Fig. 10, on p. 13, is so badly printed as to lose all its significance. Dr. Williams' volume being from the Riverside Press is, naturally, as fine a specimen of book-making as we have in this country. Dr. Mittendorf's book is also well printed on good paper.

All of the books, with the exception of Dr. Schell's, have chromolithographic representations of the fundus of the eye in health and in some forms of disease. We wish we could say that they were good, but we cannot. The eight Dr. Williams has appended to his volume are better printed than the others, and those in the second edition of Mittendorf are some improvement on those in

the first, but all are crude and compare most unfavorably with such work as done by our Continental brethren. We are certain that well executed wood-cuts would be much more creditable to us, and quite as efficient for the purposes intended.

But, after all, we seriously doubt whether it is text-books on ophthalmology which we stand most in need of. No science is advanced by its text-books. These are, as a rule, the repositories of knowledge already acquired, rather than the promulgators of new ideas and opinions, and we must have these or we stand still or retrograde. A practitioner soon outgrows his text-books, and finds the necessity of wider knowledge and deeper study into the etiology, diagnosis, and treatment of the diseases he meets with. This he can get only from monographs on special diseases, or groups of diseases, prepared by men who have given much time to research into those special subjects. We have an example of this kind of work in the "Vorträge," of Prof. Mauthner, of Vienna, which have been appearing at intervals since 1878. It is with pleasure that we note in this place a translation into English of the first of these lectures on sympathetic diseases of the eye.[1]

The first portion of this brochure was reviewed by the editor in No. 1, vol. vii. of these ARCHIVES. It may be said in regard to the second part, treating of pathology and therapeutics, that the author is of the opinion that sympathetic disease is conveyed both by the optic nerve and through the medium of the ciliary nerves. In therapeutics he makes a fight against what he considers indiscriminate enucleation, particularly as practised by the English school. As he has given his opinion categorically, we can best let him speak for himself.

"My creed in the question of enucleation runs briefly thus: It *may* be performed as a preventive; it *must* be performed in the stage of irritation; it *cannot* be performed in iritis serosa and iritis plastica; it *can* be performed in irido-cyclitis plastica, provided the eye causing sympathy is totally blind, but not in a state of violent irritation" (p. 170).

It may not be out of place to call attention, in this connection, to the American edition of Dr. Alt's work on the anatomy and pathology of the eye.[2]

[1] (The Sympathetic Diseases of the Eye, by Ludwig Mauthner, M.D., etc. Translated from the German by Warren Webster, M.D., etc., and James A. Spalding, M.D., etc., pp. 220. New York: Wm. Wood & Co., 1881. Price, $2.00.)

[2] (Lectures on the Human Eye in its Normal and Pathological Conditions, by Adolph Alt, M.D., etc. pp. 208. New York: G. P. Putnam's Sons, 1880. Price, $3.00.)

The peculiar excellence of the volume consists in the fact that it represents the actual observations of the author.

All the drawings (95 in number) were made by him from specimens in his possession. To one not possessing the large atlases of Pagenstecher and Genth or Becker, this volume will come as a very good substitute, and indeed it contains enough that is new and original to make it a very good supplement to these beautiful but expensive works.

SYSTEMATIC REPORT ON THE PROGRESS OF OPHTHALMOLOGY DURING THE THIRD QUARTER OF THE YEAR 1881.*

By H. MAGNUS, Breslau; C. HORSTMANN, Berlin; and A. NIEDEN, Bochum.

WITH THE COÖPERATION OF

E. Nettleship, London; C. E. Fitzgerald, Dublin; E. Marckwort and P. von Mittelstädt, Antwerp; Dantone, Rome; van der Laan, Lisbon; Hirschmann, Charkow; S. M. Burnett, Washington; Schiötz and Ole Bull, Christiania.

A.—GENERAL OPHTHALMOLOGICAL LITERATURE; GENERAL PATHOLOGY, DIAGNOSIS, AND THERAPEUTICS; NORMAL ANATOMY AND PHYSIOLOGY.

By H. MAGNUS, M.D.

I.—GENERAL OPHTHALMOLOGICAL LITERATURE.

a.—TEXT-BOOKS, MONOGRAPHS, TREATISES ON GENERAL, BIBLIOGRAPHICAL, AND HISTORICAL SUBJECTS.

395. Abadie. Leçons sur la nutrition de l'œil. *Gaz. des Hôp.*, May 3, 1881.

396. Abadie. Leçons de clinique ophthalmologique. Paris, 1881: Doin; pp. 280.

397. Adamük. Praktisches Handbuch zum Studium der Augenkrankheiten. (Practical manual for the study of the diseases of the eye.) Part i, 3 numbers. Kazan, 1881. A clear, rather comprehensive (for students) treatise on refraction, accommodation, ophthalmoscopy, with entire avoidance of mathematical formulæ.

398. Alexander. Casuistische Mittheilungen aus der Augenheilanstalt zu

* Containing also papers of the first half of the year 1881 which were not mentioned in the last report, published in vol. x, pp. 463–508.

Aachen. (Reports of cases from the ophthalmic institute at Aix-la-Chapelle.) *Deutsche Med. Wochenschr.*, Nos. 40 and 41.

399. BADAL. Clinique ophthalmologique de la faculté de médecine de Bordeaux. Paris, 1881; Delahaye.

400. Beiträge zur Ophthalmologie. Als Festgabe Friedrich Horner zur Feier des fünfundzwanzigjährigen Jubiläums seiner acad. Lehrthätigkeit gewidmet von Dufour, Haab, Knies, Michel, Schön, Wadsworth. (Contributions to ophthalmology. Dedicated to Friedrich Horner on the occasion of the twenty-fifth anniversary of his academic professional work, by Dufour, etc.). J. F. Bergmann, Wiesbaden, 1881.

401. BOURNEVILLE. L'année médicale, 1880. Résumé des progrès réalisés dans les sciences médicales. Paris, 1881; Delahaye. Ophthalmology is prepared by Poncet, and comprises 47 small quarto pages. The place of publication of the various contributions is not given.

402. BRAILEY, W. A. Curator's pathological report. (Roy. Lond. Oph. Hosp. Rep., vol. x, pt. 2, p. 225, June, 1881.) Cases of tumors, glaucoma, and hyalitis.

403. BURNHAM, J. H. House-surgeon's notes. Treatment of in-patients. (Roy. Lond. Oph. Hosp. Rep., vol. x, pt. 2, p. 216, June, 1881.) Use of carbolic acid lotion in gonorrhœal ophthalmia; corneal ulcer with hypopyon; entropium operated according to Burow (see the special chapters of this report).

404. CARRERAS-ARAGÓ. La ceguera en España. (Blindness in Spain.) Barcelona, 1881.

405. COLLARD. De oogen der studenten aan de rijksuniversiteit te Utrecht. (The eyes of the students at the state university of Utrecht.) *Nederlands Gasthuis voor ooglijders*, Bd. xxii.

406. CROVA. Comparaison photométrique des sources lumineuses de teintes différentes. *Comptes rendus. hebd. d. s. d. l' acad.*, No. 13.

407. CHARPENTIER. Examen de la vision au point de la médecine générale. Bibliothèque biologique internationale. Paris, Doin, 1881, 15 wood engravings, pp. 13. The various methods of examination of the different functions of the eye are briefly but clearly explained, aided by illustrations. Unfortunately the useful little book lacks an index.

408. DOBROWOLSKY. Anomalien der Refraction und Accommodation des Auges von Prof. A. Nagel. Translated and remodelled from the German. St. Petersburg, 1881. Second improved and amplified edition, pp. 258.

409. DONDERS. Rapport aangaande het onderzock van het gezichtsvermogen van het personel der Hollandsche Ijzeren Spoorweg-Maatschappij. (Report respecting the examination of the vision of the personnel of the Dutch railway companies.) *Nederlands Gasthuis voor ooglijders*, Bd. xxii.

410. DUYSE, VAN. Société ophthalmologique du royaume-uni. *Ann. d' Ocul.*, vol. lxxxvi.

411. DUYSE, VAN. Congrès périodique international des sciences médicales. 7e session, Londres. *Ann. d' Ocul.*, vol. lxxxvi.

412. EMMERT. Ueber die Häufigkeit infectiöser Augenkrankheiten zu

verschiedenen Jahreszeiten. (On the frequency of infectious diseases of the eyes at different seasons.) Internat. Med Congress, London. These ARCH., x. p. 334. By circulating blanks at about 30 cliniques it has been demonstrated that ophthalmia neonatorum is most frequent in May; diphtheritis conjunctivæ in January; hypopyon keratitis in August.

413. GÄRTTNER. Versuche über den Raumsinn der Haut an Blinden. (Experiments on the tactile sense of the skin in the blind.) *Zeitschr. f. Biologie*, Bd. xvii.

414. GALEZOWSKI. Congrès médic. de Londres. Section d' ophth. *Rec. d' Ophth.*, vol. iii, No. 9, Sept., 1881.

415. GARIEL. Tableaux schématiques d'optique élémentaire. Congrès internat. d' ophth. *Compt. rend.*, Milan, 1881, p. 258. Movable figures intended for the demonstration of the elementary laws of optics in the lecture-room.

416. GIRAUD-TEULON. La vision et ses anomalies. Cours théorique et pratique sur la physiologie et les affections fonctionelles de l'appareil de la vue. Paris, 1881; Baillière.

417. GREENHILL. On the meaning of the words "nyctalopia" and "hemeralopia," with a critical examination of the use of these words in the ancient Greek and Latin authors. Roy. Lond. Ophth. Hosp. Rep., vol. x, 2, June, 1881.

418. GROSSMANN. Ophthalmologisch-otiatrische Beobachtungen. *Wiener Med. Zeitung*, 1881, No. 20.

419. HERSING. Compendium der Augenheilkunde. Stuttgart, 1881, 3d edition. The methods of examination and the anatomical relations have received more attention than in the first edition.

420. HOPPE. **Psychologisch-physiologische Optik** in experimentell-psychophysischer Darstellung, Leipzig, 1881, p. 371. The author purposes to give an insight into the process of seeing, into the origin of visual perceptions in the brain. According to Hoppe, the physiological part of visual perceptions has been sufficiently elucidated by the ample number of thorough observations; not so the psychical part, *i.e.*, the manner of the mental operation. Hoppe attempts to demonstrate what part in the production of visual perceptions is played by the eye with its optical apparatus, what part by the muscles of the eye, and what part by the action of the soul. He shows how the soul gains a perception from the material submitted to it by the organ of special sense, in order to preserve it as a conception. The book is a psychology of visual conceptions based on physiology.

421. JAVAL. L' évolution de la typographie considérée dans ses rapports avec l' hygiène de la vue. *Rev. scient. de France et de l'étr.*, 1881. June 25th.

422. H. KNAPP. Transactions of the Ophthalmic Congress at Heidelberg, Sept. 15 and 16, 1881. These ARCHIVES, x. p. 458.

423. H. KNAPP. Transactions of the Ophthalmic Section of the International Medical Congress held at London, Aug 3 to 9, 1881. These ARCHIVES, x. p. 332.

424. KÖNIGSTEIN. Untersuchungen an den Augen neugeborener Kinder.

(Examinations of the eyes of newborn children.) Lecture before the K. K. Gesellschaft der Aerzte zu Wien. *Wiener Med. Jahrb.*, 1881.

425. KRAUSE. Ophthalmological Society of Great Britain, March 31 and April 7, 1881. *Centralblatt f. prakt. Augenghlk.*, 1881, Sept.

426. Brief Report of the Ophthalmic Section (Section ix) of the International Med. Congress. *Klin. Monatsbl. f. Augenheilk.*, p. 354.

427. LANGE. Aus der St. Petersburger Augenheilanstalt. *Petersburger Med. Wochenschr.*, No. 40.

428. LEMOIN. Études sur l' action chimique de la lumière. *Compt. rend. hebd. d. s. de l' acad.*, No. 13.

429. LEROY. Optique physiologique. Théorie de l' astigmatisme. Travaux du laboratoire de la clinique ophthalmologique de la faculté de méd. de Lyon. *Arch. d'Ophth.*, 1881, Nos. 3 and 4.

430. LORING. Danger in the eye-glass frame. Americ. Ophth. Soc. at Newport, July 27-28, 1881. The point which fastens the glasses together may penetrate into the eye ; two such cases have been observed.

431. LUCA, DE. Nota sulla canula lagrimo-nasale o canule di Dupuytren. *Accad. Med. Chirurg. di Napoli*, 1881, 26 Guigno. As early as 1780, that is thirty years before Dupuytren's time, an Italian physician at Naples employed canulas for the cure of lachrymal fistulæ.

432. MAUTHNER. Gehirn und Auge. (**Brain and eye.**) *Vorträge* über *Augenheilkunde*, vol. i, 6-8, Wiesbaden, 1881. With wood-cuts, pp. 254. Unsuitable for abstracting on account of its copious contents. Treated with an exhaustive knowledge of literature as well as of the subject, and with circumspect scientific criticism.

433. MITKEWITSCH. Zur Frage über die Verbreitung der Augenkrankheiten in Russland. (On the question of the occurrence of diseases of the eye in Russia.) *Der Arzt*, 1881, No. 39. In the military district of Odessa the number of eye patients amounts to 10 per cent. of the total soldiery; among 10,394 recruits, 587 suffered from conjunctival affections, or 5.6 per cent. The highest percentage of eye diseases is found in the district of Bessarabia, 11 per cent., against Kowno, 10.8 per cent. ; Kamenetz-Podolsk, 9 per cent. ; Charkow, 7.8 per cent. ; Suwalki, 6.3 per cent. ; Chaterinoslaw, 6.1 per cent.

434. MITTENDORF. Manual on Diseases of the Eye and Ear, for the Use of Students and Practitioners. New York, 1881, pp. 445. Price $4.

435. NIEDEN. Die Ophthalmologische Section des VII Internationalen Congresses zu London. *Berl. klin. Wochenschr.*, No. 40.

436. Ophthalmic teaching in Ireland. *Med. Press*, vol. xxxii, 1881, Sept. 7th. The diploma of ophthalmic surgeon should be valid only if issued by a clinical ophthalmic institute having at least eight beds at its disposal, and holding not less than two policlinics per week. With this, instruction in the use of the ophthalmoscope is indispensable.

437. PIERD'HOUY. Congrès périodique international d' ophthalmologie. Sixième session ; premier congrès de Milan, 1-4 Sept., 1880. *Compte rendu*, Milan, 1881. Inclusive of appendix, 430 pp., with numerous illustrations.

438. PIERD'HOUY. Une **visite aux aliénés** de la province de Mombello. *Compte rendu*, Milan, 1881. Among 900 lunatics, there were 20 cases of corneal affections; nystagmus in 0.5 per cent.; alterations in the pupil, 60 per cent. Among 81 epileptics, inequality of the pupils in 42; sluggishness of pupillary motion, especially as regards dilatation on withdrawing the light, in 12. In two cases, a short time previous to an epileptic attack, decoloration of the papilla and narrowing of the retinal vessels, and in one, great repletion and pulsation of the veins. Nine cases were examined immediately after the epileptic paroxysm: in two of these the fundus was normal, the vessels but slightly contracted; in seven the arteries were normal, but the veins largely filled, and pulsating on even slight pressure upon the globe. 21 cases of dementia paralytica were examined: in 12 of these the pupil was elliptical in form and unequal in size on the two sides; unilateral myosis was present in most cases; in more advanced cases unilateral mydriasis was more frequent. The ophthalmoscope was used in 17 cases of dementia paralytica, and there was found: atrophy of the papilla, in two; negative result, in 5; optic neuritis, in 1; dimming of the papilla through a perineuro-retinitic œdema, in 9; at times spots showed themselves in the retina. 46 cretins and 30 idiots were also examined. Among the 46 cretins was found: nystagmus, in 4; convergent strabismus, in 2; pigmentation of the iris, in 2. Among the 30 idiots was found: unequal coloration of the iris (one blue, the other brown), in 2; strabismus, convergent in 1, divergent in 1; nystagmus, in 2; myopia with nystagmus, in 1. Altogether, therefore, 7 cases of nystagmus, of which two were rotatory, 2 lateral; in these cases, too, the skull was asymmetrical. In 75 per cent., more or less pronounced mydriasis. Of these cretins and idiots, 74 were examined ophthalmoscopically. The result was negative in 15; in 45 there were alterations resembling those in albinotic rabbits; the papilla was discolored, irregular in form; the arteries rather narrow, the veins broad and sharply defined; almost total absence of choroidal pigment; the vasa vorticosa clearly visible. In one, retinitis pigmentosa.

439. PLANAT. Règlement pour la construction et l' ameublement des écoles. Paris, 1881. Ducher.

440. PONCET. Congrès international de Londres. Section ix, Ophthal. *Progrès Méd.*, No. 36.

441. PONCET. Revue d' ophthalmologie. *Progrès Méd.*, No. 32.

442. RAVA. Nuove communicazioni ottalmologiche. *Ann. d' Ott.*, vol. x, 4, 5.

443. SCHRÖDER. Das Buch vom menschlichen Auge. (The book on the human eye.) Stendal, 1881.

444. SIMI. Associazione ottalmologica italiana. IV. Riunione-Roma. *Bollet. d' Ocul.*, vol. iv, 2

445. SPALDING. Ophthalmology: Ancient and Modern. Annual Address before the Maine Medical Association, June 22, 1881. Portland, 1881. As the reviewer, a short time since, attempted to delineate the development of the profession of ophthalmology, so, in a similar manner, Spalding has described the historical development of our specialty, but has extended it to the present time, closing his delineation with v. Gräfe.

446. W. SYKES. Clinical note and remarks on a disease of the eyes peculiar to colliers. (*Brit. Med. Journ.*, vol. xlii, p. 77, July 16, 1881.)

The sight first fails in bad light, and grows gradually worse till the pupils are dilated and insensible to light, and only a perception of light remains, while nystagmus is well marked. Recovery takes place on exposure to light and air without other treatment. The miners attribute the disease to the bad light given by the safety lamp, but Sykes believes it to be toxic from gases accumulating in the pits.

447. TALKO. Die Ophthalmologie auf der Versammlung der Polnischen Aerzte und Naturforscher in Krakau vom 20. bis 25. Juli, 1881. (Ophthalmology at the meeting of Polish physicians and naturalists in Cracow.) *Kronika lekarska*, No. 20.

448. THOMAS. Revue bibliographique. *Arch. d'Ophth.*, 1881, Nos. 3 and 4.

449. TREITEL. Casuistische Mittheilungen. (Clinical contributions.) *A. f. A.*, vol x.

450. WOLFE. Lectures on ophthalmology. *Med. Times*, No. 1,618.

b.—STATISTICAL PAPERS.

451. ADAMÜK. Ophthalmologische Beobachtungen aus der Augenabtheilung der Universitätsklinik zu Kasan, 1880. 5. Lieferung. Detailed reports of 2,309 eye patients; 1879 were treated at the clinic, 412 in private practice. Among 523 anomalies of refraction, 286 were hypermetropic (53½ per cent.); 212 myopic. Corneal affections amounted to 32 per cent, of the total number of patients; affections of the lens to 7½ per cent., namely 166 cases with 163 cataracts. Cataract extractions almost exclusively after von Gräfe's method, with 4.4 per cent. of failure. Affections of the retina and optic nerve 84, — 3.7 per cent.; among these atrophy of the optic nerve in 55, — 2½ per cent. Affections of the uveal track 61 cases, — 2.7 per cent. Glaucoma 66 cases, — 3 per cent. In unilateral glaucoma, iridectomy is performed at the same time on the healthy eye. Total number of operations 324, namely: iridectomies, 95; extractions, 90; discissions, 13: corneal transplantations, 4; trichiasis operations, 84.

452. ADELMANN. Geschichtliche und statistische Rückblicke auf die Augenklinik der Kaiserlich Russischen Universität zu Dorpat von ihrem Beginne bis zum Jahre 1877. (Historical and statistical retrospect of the ophthalmic clinic of the Imperial Russian University at Dorpat, from its commencement to the year 1877.) *Deutsches Archiv für Geschichte der Medicin und Medicinische Geographie*, vol. iv, Nos. 1–4. The German University at Dorpat was founded in 1802, and in the first fifty years it was attended by 5,973 students, of whom 2,180 were medical. The ophthalmological clinic was founded in 1868, and had an annual attendance of 1,500–1,700 patients. From 1805–1842, 4,740 eye patients were treated, and from 1842–1867, 9,150; from 1868–1878 the number of eye patients reached the total of 17,081. From 1842–1867, 9,150 eye patients were treated; of these were, affections of the lids, 873 (entropion 415, distichiasis 245, trichiasis 90); conjunctiva, 5,161 (trachoma, 1,847, chronic blennorrhœa, 524, chronic ophthalmia 406, sabacute catarrhal conjunctivitis

737, palpebral and bulbar conjunctivitis 378, chronic catarrh 366); cornea, 1,967; iris, 173; sclerotic, 70; choroid, 98; lens, 317; vitreous, 2; retina and optic nerve, 171; nerves, 27; muscles, 52; lachrymal apparatus, 67; globe and orbits, 119; anomalies of refraction and accommodation, 530. The peculiar form of the orbit in the Esthonians, as well as injurious external influences are said to predispose especially to diseases of the conjunctiva. Trachoma was treated with the solid stick of copper sulphate or of alum; more inveterate cases with silver nitrate. Particularly effective was unguentum hydrarg. rubr. dialys., a quantity the size of a pea introduced into the conjunctival sac. In superficial leucoma electricity produced clearing.

453. BARDE. Hôpital ophthalmique à Genève, January, 1879, to December, 1880. Genève, 1881. During 1879, there were 1,155 dispensary and 282 hospital patients; during 1880, 1,392 dispensary and 276 hospital patients. Graver operations, 320; of these 78 cataract extractions with 85.89 per cent. complete success, 7.69 per cent. partial success, 6.41 per cent. failures. The retention of cortical remnants is believed to be very dangerous by Barde, who therefore recommends extraction with the capsule. In hypopyon keratitis, antiseptic dressing; pilocarpine in iritis and chronic choroiditis.

454. BEZOLD. IV. Bericht aus der Privatheilanstalt für Augen- und Ohrenkranke in München. *Aerztliches Intelligenzblatt*, No. 27.

455. BUSINELLI. Relazione annuale sul servizio sanitario nell' ospizio Margherita di Savoia per ciechi poveri in Roma. Roma, 1881.

456. CASTORANI. Rendiconto statistico delle malattie oculari, durante il biennio scolastico 1877–1879 nella r. clinica oftalmica. Morgagni. Luiglio, 1881.

457. CORSINI. Dispensario ottalmico. Cenni statistici per l' anno 1880.

458. DESPAGNET. Clinique ophthalmique du Dr. Galezowski. Relevé statistique des maladies soignées et des opérations pratiquées du 1 Juillet, 1880, au 1 Juillet, 1881. *Rec. d' Ophth.*, Sept., 1881, 8,651 patients were treated. Aniridia existed in 31 members of one family.

459. DREWES. Ein Beitrag zur Statistik und Diagnostik der syphilitischen Augenerkrankungen. Inaug. Dissert., Berlin, 1881.

460. HALTENHOFF. Deuxième rapport de la clinique pour les maladies des yeux. Genève, 1881. From July 1, 1878, till December 31, 1880, 1,447 eye patients were treated, and 140 operations performed; of these, 17 were extractions, 11 successful (after Gräfe's method with small flap), 2 partially so, 1 failure. Two flap extractions; 1 success, 1 failure. One simple flap extraction with partial success.

461. HIPPEL, VON. Bericht über die ophthalmologische Universitäts-Klinik zu Giessen aus den Jahren 1879–1881. Unter Mitwirkung der Assistenzärzte Dr. Vossuis und Dr. Markwald. Stuttgart, 1881. 853 patients were admitted to the clinic; 2,821 were treated in the dispensary. 539 operations were performed, namely: on the lens, 72; extractions, 41; extractions with the capsule, 7; discissions, 7; operations on the iris, 142; iridectomies, 119; operations on the cornea, 57; on the lids, 96; on the retina, 2; on the muscles, 34; on the lachrymal apparatus, 104. Enucleations, 25; and exenterations of the orbit 5; after-treatment antiseptic. Employment of chloroform.

462. JOELSOHN. Einige Worte über die Augenkranken des 62 Kriegszeit-Hospitals. (A few words on the eye patients of the military field hospital of 1862.) *Militär-Medic. Journal*, 1881, May. During six months there were treated 249 eye patients; 41.3 per cent. simple conjunctivitis, 32 per cent. trachoma. Advocates the establishment of an ophthalmological station during a war.

463. KERSCHBAUMER, ROSA, und FRIEDRICH. Bericht über das Jahr 1879 und über 112 Staarextractionen nach v. Gräfe's Methode. Salzburg, 1881. New policlinical patients, 1,828; new hospital patients, 238. In 69 extractions, very good vision; in 19, good; in 11, insufficient. One failure.

464. KERSCHBAUMER, ROSA, und FRIEDRICH. Bericht über das Jahr 1880 und über ein zweites Hundert Staarextractionen nach v. Gräfe's Methode. Salzburg, 1881. New policlinical patients, 1848: new hospital patients, 349. 468 operations; 138 cataract operations; 84 senile extractions; 81 complete, 3 incomplete successes; 52 iredectomies; 24 operations on muscles. Of 100 extractions after v. Gräfe's method, in the course of sixteen months, 99 showed complete success.

465. MULES, P. H., Surgeon to the Manchester Royal Hosp. Extraction of cataract. (*Brit. Med. Journ.*, vol. xlii, p. 43, July 9, 1881). Dr. Mules reports on 77 cases of extractions with the following result: Wound enlarged with scissors, in 6 cases; vitreous lost in 4 cases; spoon used in 4 cases; 6 attacks of iritis after operation. One total loss from panophthalmitis; 66 recoveries with good vision for distance. The operation employed was the "modified linear of Gräfe." He divides his cases into complicated and uncomplicated. The former include cases of locomotor ataxy, diabetes, etc., and these all recovered satisfactorily. He performed needle operations subsequently on the capsule in 7 cases, and believes it would have been advantageous to do so systematically.

466. RÄHLMANN. Bericht über die Wirksamkeit der Universitäts-Augenklinik zu Dorpat für den Zeitraum von October 1879 bis April 1881 nebst kürzeren ophthalmologischen Abhandlungen. (Report on the working of the eye clinic at the University of Dorpat from October, 1879, to April, 1881, together with minor ophthalmological aricles.) Dorpat and Fellin, 1881. Under treatment were 2,175 patients; cataract operations, 53; extractions after v. Gräfe's method, 36; iridectomies, 67; sclerotomies, 12 (but the temporarily reduced intra-ocular pressure generally soon rose again, while iridectomy lowered it permanently). In Esthonians with prominent supra-orbital margins the peripheral linear section was performed more inferiorly, without, however, forming a conjunctival flap.

467. REYMOND. Alcune annotazioni sulla medicazione di Lister nelle estrazioni della cateratta e quadri statistici delle operazioni d' estrazione praticate all' ospidale ottalmico dal 1 Gennaio 1880 al 1 Luglio 1881. Torino 1881. Disinfection with 1¼ per cent. phenol solution; operated under spray (2½ per cent.). After six days, the dressing is removed under spray and 4 per cent. borated lint substituted. Of 346 extractions performed in this antiseptic manner, the losses were but 2 per cent., while the losses with the employment of carbolic acid amounted to 9 per cent.

468. SCELLINGO. Ambulatorio clinico oculistico. Rapports per l' anno

1880. Roma, 1881. 2,283 patients were treated, of which 70 per cent. suffered from affections of the conjunctiva and cornea. 19 extractions with small flap downward; 2 failures.

469. SCHIESS-GEMUSEUS. Siebenzehnter Jahresbericht der Augenheilanstalt zu Basel vom 1. Januar 1880 bis 1. Januar 1881. Basel, 1881. Policlinical patients, 1,340; hospital, 401. Operations, 198. Extractions, 51; of these, 46 with good, 2 with partial success, 3 failures. 9 discissions; 4 extractions with the capsule; 83 iridectomies; 7 sclerotomies; 14 enucleations; 15 operations on the muscles. A series of interesting clinical cases is added.

c.—OPHTHALMOLOGICAL JOURNALS.

German Journals.

470. *v. Gräfe's Archiv für Ophthalmologie*, Berlin, 1881. Bd. xvii, 2. 1. Steffan. Beitrag zur Pathologie des Farbensinnes. 2. Rothholz. Zur Aetiologie des Staphyloma posticum scleræ. 3. Haensell. Experimentelle Untersuchungen über das Verhalten der Hornhautgrundsubstanz bei traumatischer Keratitis. 4. Landesberg. Ueber das Auftreten von regelmässigem Astigmatismus bei gewissen Refractions- und Accommodationsanomalien. 5. Widder. Ueber Iritis syphilitica mit Rücksicht auf ihr Verhalten zur allgemeinen luetischen Diathese. 6. Michel. Ueber Iris und Iritis. 7. Schreiber. Zur Thränensackexstirpation. 8. Deutschmann. Zur physiologischen Chemie der Augenflüssigkeiten. 9. Michel. Antwort an Herrn Paul Baumgarten. 10. Wälchli. Microspectrische Untersuchungen der gefärbten Kugeln in der Retina von Vögeln.

471. *Archiv für Augenheilkunde.* Bd. x, 4 (July 15th). 1. Herdegen. Ueber sogenannte Commotio retinæ. 2. Emmert. Des Mechanismus der Accommodation des menschlichen Auges. 3. Kubli. Die klinische Bedeutung der sog. Amyloidtumoren der Conjunctiva. 4. Treitel. Casuistische Mittheilungen. 5. Haase. Zur Embolie der Art. centr. ret. 6. Knapp. Subperiostale Enucleation einer Elfenbeinexostose des Sinus frontalis, welche in die Nasen- und Augenhöhle vordrang. Heilung per prim. intent. 7. Magnus und Nieden. Bericht über die Leistungen und Fortschritte der Augenheilkunde in der zweiten Hälfte des Jahres 1880.

472. *Ergänzungsheft zum Archiv für Augenheilkunde.* 8. August. 1. Mooren. Gesichtsstörungen und Uterinleiden. 2. Kubli. Die klinische Bedeutung der sogenannten Amyloidtumoren der Conjunctiva. 3. Nieden. Beiträge zur Lehre vom Zusammenhang von Hirn- und Augenaffectionen. 4 Krause. Beiträge zur Pathologie der sympathischen Augenentzündung. 5. Nieden. Ein neuer Fall von pulsirendem Exophthalmus.

473. *Klinische Monatsblätter für Augenheilkunde.* Zehender. *Juli.* 1. Samelsohn. Zur Flüssigkeitsströmung in der Linse. 2. Mandelstamm. Ein Fall von Bleiverbrennung der Augen mit günstigem Ausgang. 3. Mandelstamm. Ein Eisensplitter im Auge nach vierjährigem Verweilen eliminirt ohne sympathische Affection des anderen Auges. 4. Mandelstamm. Zwei Fälle von metastatischer Augenentzümdung im Puerperium.—*August.* 1, Mooren. Zur Pathogenese der sympathischen Gesichtsstörungen. 2. Walb. Abscess der Conjunctiva bulbi.—*September.* 1. Schön. Der Venenpuls der Netzhaut.

2. Fröhlich. Celluloid-Prothesen. 3. Kurzer Bericht über die opth. Section des internat. med. Congresses.

474. *Centralblatt für praktische Augenheilkunde.* Hirschberg. *Juli.* 1. Jany. Keratitis neuroparalytica. 2. Fuchs. Zur Behandlung der Conjunctivitis gonorrhoica. 3. Samelsohn. Zur ophthalmo-therapeutischen Wirkung des Amylnitrits. 4. Heuse. Hemianopsie bei Schädelverletzung. 5. Pflüger. Zur Diagnose der Farbenblindheit.—*August.* 1. Steinheim. Zur Hemianopsia temporalis. 2. Schüller. Beiträge zur Pathologie des Sehnerven.—*September.* 1. Hirschberg. Ueber Colobom und Mikrophthalmus. 2. Hirschberg und Krause. Zur Pathologie der ansteckenden Augenkrankheiten. 3. Krause. Ophthalmological Society of Great Britain. 31. März und 7. April 1881.

French Journals.

475. *Revue clinique d' oculistique.* Armaignac. Meyer. Sichel. 1881, *July.* 1. Armaignac. Aniridie congénitale presque complète. Plusieurs attaques de choroïdite séreuse avec tension glaucomateuse du globe suivies de cécité temporaire presque complète. Luxation spontanée du cristallin dans le corps vitré ; extraction de la lentille. Guérison. 2. Cataracte traumatique chez un homme de trente-quarante ans ; résorption du cristallin ; atrophie partielle du nerf optique ; diminution considérable du champ visuel et de la vision. 3. Knapp. Enucléation sous-périostée d'une exostose éburnée du sinus frontal s'étendant dans la cavité orbitaire et nasale; guérison. Trad. Dr. Sédan.—*August.* 1. Amaignac. Cataracte congénitale double, adhérente à gauche ; atrésie pupillaire des deux cotés résistant à l'action de l'atropine ; microphthalmos ; nystagmus continuel ; strabisme bilatéral en haut et en dedans ; absence complète de fixation. Extraction du cristallin à gauche ; iridectomie à droite ; amelioration de la vue. 2. Armaignac. Cataracte congénitale double ; hérédité morbide remarquable ; opération à l'age de 29 ans. Traumatisme de l'œil quatre mois après l'opération ayant occasionné la rupture complète de la plaie cornéenne et l'issue de l'iris et du corps vitré. Guérison rapide et conservation de la vue. 3. Armaignac. Extraction par un nouveau procédé d'un fragment de sonde d'argent logé par accident dans les voies lacrymales.—*September.* 1. Amaignac. Considérations sur l'étiologie et la thérapeutique des affections des voies lacrymales. 2. Piloni. Récupération tardive de la vision après une opération de cataracte.

476. *Archives d'Ophthalmologie.* Panas. Landolt, Poncet. 1881, *July-August.* 1. Panas. Sur l'élongation des branches du trijumeau dans le traitement du blépharospasme douloureux. 2. Landolt. Section optico-ciliaire. 3. Poncet. Section du trijumeau dans ses rapports avec l'œil. 4. Gayet. De l'expulsion totale de l'iris. 5. Abadie. Tumeurs rares symétriques des paupiéres 7. Nuel. Un cas de colobome de la paupière supérieure et des sourcils. 8. Thomas. Revue bibliographique.—*September-October.* 1. Hocquard. Plaques épithèlials de la cornée. 2. Domalix. Du traitement des affections chroniques de la cornée par le massage de l'œil. 3. Delapersonne. Du chancre palpébral. 4. Macé et Nicati. Contribution à l'étude du champ visuel des couleurs. 5. Poncet. Congrès international de Londres. 6. Thomas. Revue bibliographique.

477. *Recueil d'Ophthalmologie.* Galezowski. Cuignet. *July.* 1. Cuignet. De la conjonctivite chronique simple. 2. Masse. Des tumeurs perlées de l'iris. 3. Gillet de Grandmont. Note sur un procédé, expérimental pour la détermination de la sensibilité de la rétine aux impressions lumineuses colorées. 4. Galezowski. Du traitement de la kératite interstitielle et de la sclérokératite par l'iridectomie. 5. Désallées. Du meilleur traitement du traumatisme de la cornée par l'épi de blé. 6. Chevalier. Bibliographie française. 7. Boggs. Bibliographie étrangère. 8. Parent. Bibliographie française.—*August.* 1. Baudry. Note sur un cas d'emphysème des paupières et de l'orbite. 2. Interiano. Du glaucome hémorrhagique. 3. Masse. Des tumeurs perlées de l'iris (Suite). 4. Haase. De l'embolie de l'artère centr. de la rétine. 5. Ott. Inflammation de la glande lacrymal (dacryadénite) terminée par suppuration. 6. Cuignet. De la conjonctivite chronique simple (Suite).—*September.* 1. Despagnet. Clinique ophthalmol. du Dr. Galezowski. Relevé statistique des maladies soignées et des opérations pratiquées du 1 juillet 1880 au 1 juillet 1881. 2. Leber et Deutschmann. Des affections du nerf optique et des paralysies musculaires consécutives aux blessures du crâne. 3. Herdegen. De la prétendue commotion de la rétine. 4. Parent. Optométrie ophthalmoscopique à l'image renversée. 5. Cuignet. De la conjonctivite chronique simple (Suite). 6. Galezowski. Congrès médical de Londres.

478. *Annales d'Oculistique. July–August.* 1. Javal et Schiötz. Un ophthalmomètrie pratique. Communication faite à Londres à la section ophthal. du congr. méd. internat. 2. van Duyse. Société ophth. du Royaume-uni. Compte rendu des séances.—*September-October.* Donders. Sur les systèmes chromatiques. 2. van Duyse. Le colobome de l'oeil et le kyste séreux congénital de l'orbite.

479. *Gazette d'Ophthalmologie.* Carré. *July.* 1. Carré. Notes de thérapeutique. Traitement des kératites (Suite).—*August.* Carré. Notes de thérapeutique. Traitement des kératites.

Italian Journals.

480. *Annali di Ottalmologia.* Quaglino. Bd. X, Fasc. 3. 1. Secondi. Esoftalmo pulsante. Storia e conferenza clinica. 2. Rampoldi. Sopra lo strato intergranulare della retina del cavallo. 3. Tartuferi e Albertotti. Sulle variazioni del valore di R. consequenti alle evacuazione dell' umor aqueo.—Fasc. 4. 5. 1. Ravà. Nuove communicazioni ottalmologiche. 2. Rampoldi. Della cheratite dei mietitori e dei suoi rapporti colla dacriocistite. 3. Tartuferi. Un caso di granuloma dell' iride senza cellule giganti. 4. Nicolini. Di una enervazione ottico-ciliare. 5. de Vincentiis. Sul glioma della retina.

481. *Bolletino d'Oculistica.* Simi. *July.* 1. Simi. Cauteriazzione ignea della cornea. 2. Simi. I bagni di mare nell' ottalmia scrofulosa.—*August.* Velardi. Un caso di alopecia ciliare alterna.—*September.* Piloni. Sopra un caso di cateratta.

Spanish Journals.

482. *La crónica oftalmológica.* Del Toro. *July.* 1. Del Toro. Contribucion à la historia del tratanien to de la sifilis ocular. 2. Del Toro. Intoxicacion de la atropina en los instillaciones à los ojos.—*August.* 1. Diaz.

Rocafull. Algunos casos mos de merpos extraños implantados en et interior del ojo. 2. Lopez-Ocaña. Albugos corneales de extraña y notable forma.—*September.* Guijo. De algunas afeciones oculares que complicar la enterocolitis aguda y la diarrea idiopática de la primera infancia.

483. *Revista especial de oftalmologia, sifilografia, dermatologia, y afeciones urinarias.* Rodriguez Viforcas. *July.* Garau y Alemany. De la hemeralopia y su frequencia en el soldado.—*August.* Perez Caballero. La oftalmometria, procedimientos y aplicaciones.—*September.* Santiago Ramon y Cajal. Investigaciones experimentales sobre la genesis inflamatoria y especialmente sobre la emigracion de los leucocitos.

484. *Revista de Ciencias Médicas.* Carreras Aragó. *July.* Carreras Aragó. Herida de la córnea con cataracta traumatica y presencia de una portion de cápsula de piston entre los celulas del cristalino. Extracion del merpo extraño y del cristelina. Curacion.—*August.* Carreras Aragó. El Daltonismo y los alteratione visuales en los empleados de los ferrocorriles.—*September.* Montardit. Optometro-astigmometro.

II—GENERAL PATHOLOGY, DIAGNOSIS, AND THERAPEUTICS.

485. BRADFORD. The electro-magnet in ophthalmology, with the description of a new instrument. *Bost. Med. & Surg. Journal*, 1881, March 31.

486. CAJAL Y RAMON. Investigaciones experimentales sobre la genesis inflamatoria y especialmente sobre la emigracion de los leucocitos. *Revista especial de oftal.*

487. LEARTUS CONNER. The use of **hot water in the local treatment of diseases of the eye.** *Amer. Jour. Med. Sci.*, Oct. Led by the experience of gynecologists in the use of hot water in inflammations of the uterus, Dr. C. has tried the same agent in all forms of inflammation of the eye. All practitioners are acquainted with the beneficial effects of moist warmth in affections of the iris and cornea, but its application to inflammation of the lids and conjunctiva has not, we believe, been hitherto suggested. The theory of its action is that it contracts the walls of the blood-vessels without producing any preliminary irritating effect. He orders it to be used as follows: A basin containing not less than two quarts of water, as hot as can be borne by the hand, is placed on a chair so as to be easily reached when the body is bent forward. The water is then thrown up on the closed eyelids with open hand. No sponges or cloths should be used. This douching should be continued for five minutes, at intervals ranging from three to ten times a day according to the urgency of the symptoms. It is not proposed to dispense with other means of treatment where they are indicated. [The theory is at variance with the generally accepted opinions as to the influence of warmth on the blood-vessels.—K.]

SWAN M. BURNETT.

488. DERBY. Anæsthesia and **non-anæsthesia in the extraction of senile cataract.** Amer. Ophth. Soc. at Newport, July 27 and 28, 1881. Of 200 extractions, 100 were performed with, 100 without anæsthesia. Of the 100 performed with anæsthesia, there was: loss of vitreous, in 14 cases; duration of treatment, 18.3 days; S in 81 cases $= \frac{1}{10}$ and over; in 8 cases, S $= \frac{1}{15} - \frac{1}{60}$; total failure in 9 cases. In 100 extractions performed without anæsthesia, there

was: loss of vitreous, in 9 cases; duration of treatment, 16.5 days; S in 89 cases at least $= \frac{1}{10}$ or better; in 9 cases, S $= \frac{1}{12} - \frac{1}{60}$; total failure only one.

S. M. BURNETT.

489. FALCHI. Effets du pus injecté dans l'œil, specialment sur la rétine et la choroïde. *Compte rendu.* Congr. inter. d' ophth., Milan, 1881, p. 327. Comp. No. 41 of the last report.

490. FIALKOWSKY. Ueber den Einfluss russischer Bäder auf das gesunde und kranke menschliche Auge. (On **the influence of Russian baths on the healthy and the diseased human eye.**) Wratsch, 1881, No. 9. The influence upon diseased eyes is greater than on healthy eyes. After the bath the pupils are somewhat dilated or react sluggishly; both the far point (?) and the near point are slightly removed from the eye; the range of accommodation, therefore, is somewhat diminished. Visual acuteness suffers no change. Moreover, after the bath, conjunctival and retinal hyperæmia occurs; the secretion of mucus and tears becomes increased. Any inflammations present are intensified.

491. GALEZOWSKI. Extraction au moyen d'un aimant d'une tige de fer fixée dans la rétine. *France Méd.*, No. 19.

492. GRILLI. Sistema antissetico e termo-cauterio. Livorno, 1881.

493. GRÜNHAGEN. Mechanische Reizung des Ramus ophth. Mechanical irritation of the ramus ophth. leads to a secretion of all the fibrinogenous substances into the aqueous humor. Irritations of one eye influence, if not to the same degree, at least in like manner, the other eye. Verein f. wissensch. Heilkunde zu Königsberg am 18 April, 1880. *Berliner klin. Wochenschr.*, 1881, No. 35.

494. GUNN, R. M. On the continuous electrical current as a therapeutic agent in atrophy of the optic nerve and in retinitis pigmentosa. (Roy. Lond. Ophth. Hosp. Rep., vol. x, pt. 2, p. 161, June, 1881.) 1. In optic atrophy Weiss' continuous current battery (the Foreaux-Smee; the elements are zinc and platinized silver) of 25 cells was the instrument used. The positive pole was placed on the closed eyelid and the negative applied to the supra-orbital region, the top of the spine, and to a point just behind the mastoid process, in order to determine which position gave the greatest light impression. Five or seven cells were only employed at first. The supra-orbital region was the point selected in the majority of cases. The position of the poles was changed during the sitting, which lasted from five to six minutes. Of the 18 cases thus treated, six improved, four were doubtful, and eight did not improve, or grew worse. Two of the six cases which improved returned some time afterward with their sight as bad as before, and did not improve under further treatment. No really conclusive results were obtained, because of the small number of the cases and the fact that this was not the sole method of treatment, as iodide of potassium or strychnia, or other nerve tonics, are noted as having been given in all the cases but one.

G. considers, nevertheless, that when we compare the above results with those obtained where no galvanism has been employed, there must be a strong presumption in favor of its utility in certain cases. He is sceptical of the efficaciousness of iodide of potassium, and looks upon strychnia and the other nerve

tonics as possibly of some use when combined with good food. He gives an analysis of the cases with reference to the question of prognosis, and the conclusion he arrives at is, that "he should give the most favorable prognosis when the patient is young or middle-aged, with recent failure of sight and present ability to count fingers at least. Color-perception is possibly defective. The disc is white, but the large vessels are of normal size. There is no history of severe injury to the brain or spinal cord, but perhaps there are symptoms of locomotor ataxy."

2. Retinitis pigmentosa. Of the value of galvanism in this disease G. speaks hopefully. He reports four cases, in each of which there was a decided improvement. In Case 1 the patient's condition on admission was: Right eye, V = fingers at 3′; Left, V = $\frac{20}{70}$ with — 36°, and when discharged: Right, V = $\frac{20}{40}$ nearly; Left, V = $\frac{20}{40}$ nearly. G. refers to the literature of the subject, and draws attention to cases reported by Neftel and Dor, in which there was marked benefit by this treatment. He considers that the continuous current is capable of stimulating the *conductivity* of the optic nerve, both as regards the electrical current and the current originated in the impression produced upon its end-organs by means of light, and that this counteracts the degeneration of the nerve tissue which follows the absorption of light by the pathological pigment deposits. The defective blood supply also tends to produce further degeneration, and possibly galvanism has a temporary effect in dilating the blood-vessels, and so improving the nutrition of the tissue.

The caution to be observed in using the remedy is to begin with a weak current of five or seven cells for a short time, and then gradually increased if necessary. FITZGERALD.

495. HARDY. On electro-magnets for ophthalmic use. Transact. Ophth. Soc. Un. Kingd., 1881, vol. i, p. 220. Comparison of the instruments devised by Bradford and by Coxeter.

496. HEBB, R. G. and BRAILEY, W. A. On the phenomena of suppurative hyalitis and their relation to the "Migration Theory." (Roy. Lon. Oph. Hosp. Rep., vol. x, pt. 2, p. 269. June, 1881.) H. and B. give a detailed account of the various changes found in cases of suppuration occurring either spontaneously in a defective eye or in direct consequence of some local injury, and the general conclusion they arrive at is, "that the migration of the colorless blood-corpuscles bears no part in these cases of suppuration of the vitreous body. They are thus clearly marked off in their pathology from metastatic suppurations of the eyeball when the vitreous cavity has become full of pus from a migration of colorless corpuscles from the blood-vessels."

FITZGERALD.

497. HIGGENS. Hyposcleral cyclotomy. *Transact. Oph. Soc.*, vol. i, 1881. 7 operations; results fair.

498. HIRSCHBERG. Ueber Entfernung von Eisensplittern aus dem Augeninnern. (On the removal of fragments of iron from the interior of the eye.) *Arch. f. klin. Chir.*, Bd. xxvi.

499. HORNER. Die **antiseptische Methode** in der Augenheilkunde. Internat. Med. Congress zu London. *Berliner klin. Wochenschr.*, No. 40. These ARCHIVES, vol. x, p. 333. No spray. 5 per cent. carbolic acid solution for

cleansing, 5 per cent. salicylated cotton for dressing. In suppuration, instillation of 2 per cent. carbolic acid solution into the conjunctival sac, and opening of the extraction-wound, with removal of the products of inflammation from the anterior chamber. By means of such employment of antisepsis, the loss in cataract operations has been reduced from 4.8 per cent. to 1.5 per cent. In favor of antisepsis Reymond and Leber have taken sides; while, on the other hand, Knapp and Hirschberg have obtained equally good results without it. The question of antisepsis in ophthalmology, therefore, remains still open.

500. JONATHAN HUTCHINSON. **The laws of inheritance in relation to disease.** Lecture IV delivered at the Royal College of Surgeons of England. (*Med. Press and Circular*, vol. xxxii, p. 22. July 13, 1881.)

In his fourth lecture on Laws of Inheritance, Jonathan Hutchinson treats of heredity of retinitis pigmentosa. It rarely appears at birth, though he believes the tendency to it to be present, but it shortly develops and increases with age. Consanguineous marriages tend to strengthen the predisposition to the disease, and Liebreich has found it to be very common among Jews. Retinitis pigmentosa is allied to certain forms of choroiditis and to disease of the optic nerve. In retinitis pigmentosa the choroidal structure is interrupted and the retina is gradually obscured by a dense pigmentary deposit. The vessels shrink, and when once the series of events is established it pursues a certain and inevitable course to the end. He then refers to the tendency of defects of the optical structure of the eye to be transmitted and become hereditary, and quotes cases in point, *e. g.*, myopic families. He further says: functional changes once duly fixed by pathological changes are transmitted from individual to individual, and that which at the outset ranked only as an idiosyncrasy may by and by develop into a determinate disease. An instance of this is afforded by a form of amaurosis due to excessive tobacco-smoking, the tobacco here acting not as the actual producing cause of the disease, but as an excitant of the tendency to defect when once originated. FITZGERALD.

501. KRENCHEL. Anwendung des Magneten zur Entfernung von Eisensplittern aus dem Innern des Auges. (Application of the magnet for the removal of fragments of iron from the interior of the eye.) *Dansk Hospitaltidende*, Sept. 28, 1881. Report of three successful extractions.

502. LEBER. Ueber die Wirkung der in das Innere der Augen eingedrungenen Fremdkörper. **(On the action of foreign bodies which have penetrated into the interior of the eye.)** Internat. Med. Congress zu London. These ARCH., x, p. 333. The mere presence of a clean, chemically indifferent body within the eye causes no inflammation. Clean bodies of common metal (iron, copper) which undergo oxidation within the eye cause no suppurative inflammation, but atrophy of the vitreous, detachment of the retina. If suppurative inflammation occurs in consequence of the penetration of foreign bodies into the eye, it is due to the entrance of germs of low organisms. Certain chemical substances, such as arsenic, mercury, croton oil, incite suppurative inflammation, even if they entered the eye in a pure condition. Suppurative inflammation in the eye, therefore, may arise from chemical irritation, without the participation of microbia. The injection into the eye of boiled extracts of fungous fluids incites inflammation which soon again disappears. It is probable that this inflammatory effect of microbia rests upon their generation of certain

chemical substances which act as inflammatory irritants. Intra-ocular cysticerci produce purulent inflammation, the origin of which is to be ascribed to the generation of an irritating secretion.

503. OWEN, D. LOYD. Extraction of cataract by small angular flap. *Birmingham Med. Review*, July, 1881, p. 254.

504. LOPEZ-OCAÑA. El parasitismo en oftalmologia. *Jurado médico-fermaceutico*, Nos. 31, 33.

505. MANFREDI. La profilassi anti-settica nella chirurgia oculare. Collezione italiana de leture sulla medicina. Letura, vol. v. Maggio, 1881. Milano.

506. MICHEL. Ueber den Zusammenhany von occulären Störungen mit Störungen im Circulationsgebiet der Carotis. (On the connection of ocular disturbances with disturbances in the circulatory region of the carotid.) *Sitzungsbericht der physik. med. Gesellschaft zu Würzburg*, No. 6.

507. MICHEL, JUL. Das Verhalten des Auges bei Störungen im Circulationsgebiet der Carotis. **(Affections of the eye from disturbed circulation in the carotid.)** Beiträge zur Ophthalmologie. Festgabe zur Feir des 25-jährigen Jubiläums von Horner. Wiesbaden, 1881. If a carotid artery be compressed in man, a paling of the papilla of the corresponding side, a fainter column of blood in the arterial vessels, and a diminution in width of the venous retinal vessels may be observed for a short time. This stage passes quickly, and great venous stasis and absence of venous pulsation show themselves. A similar venous stasis of the retina is visible when one arm is stretched upward. Ligation of one carotid is followed, immediately after the operation, by complete arterial and venous anæmia; later, by filling of the collateral channels; but a venous hyperæmia persists on account of the diminution of arterial pressure. This alteration is observed in the eye corresponding to the ligated carotid. In the venous system of the side opposite to the ligated vessel, a stronger rhythmical pulsation can be seen. Atheroma of the carotid is in intimate relation with opacities of the lens; the so-called senile cataract, as well as unilateral cataract with unknown cause, finds in this a satisfactory explanation.

508. MORANO, FRANCESCO. In quali forme di catterata convenga l' estrazione della capsula in sieme alla lente. *Giornale delle Malattie degli Occhi*, vol. iv, 1881. Morano rejects extraction of cataract within the capsule in general, but would have it employed in capsular deposits, in cataracta accreta, and in shrunken cataracts. DANTONE.

509. NORRIS. Administration of anæsthetics in Bright's disease, and on some cases of sudden death after cataract operations. Amer. Ophth. Soc. at Newport, 1881, July 27th–28th.

510. NOYES. Cure of cataract by electricity. Amer. Ophth. Soc. at Newport, 1881, July 27th–28th. A seeming cure of a cataract by electricity proved to be a case of choroiditis in which, under electrical treatment, flakes in the vitreous had disappeared.

511. PONCET. **De la section du trijumeau dans ses rapports avec l'œil.** *Arch. d' Ophth.*, vol. i. After criticising the experiments of others, Poncet formulates the results of his own as follows: The symptoms of the sec-

tion of the fifth pair are totally different from those after optico-ciliary neurotomy, in which the division of the blood-vessels plays the chief part. The keratitis travels from the surface to the depth and is of a traumatic nature. Iris and ciliary processes are not implicated at first. In the retina, disturbances of circulation (reflex from the severed trigeminus on sympathetic fibres of the carotid plexus) produced œdema of the inner layers, with hypertrophy of the ganglionic cells and the inner granular layer. Myosis by preponderance of the action of the sphincter. A year after the section, the nerves of the cornea are reproduced.

512. SAMELSOHN. Zur Extractions-Methode mittelst des Magneten. *C. f. A.*

513. SCHENKL. Ueber Antisepsis in der Augenheilkunde. *Prager med. Wochenschr.*, No. 11.

514. SIMI. I bagni di mare nell' ottalmia scrofulosa. *Bollet. d'Oc.*, 1881, August.

515. SOROKIN. Zur Kenntniss des Leptothrix oculorum. *Der Arzt*, No. 5.

516. SOROKIN. Zweite Notiz über **Parasiten des Auges.** *Der Arzt*, No. 16. The forms observed by Förster and Gräfe do not belong to leptothrix. In the cornea of an eye which had perished from panophthalmitis, he observed long, thin, opaque filaments; they are thicker than those of leptothrix buccalis, show a tendency to twist themselves lengthwise around each other, or to assume a curved form. Attempts at cultivation failed, excepting in human blood; here the filaments lengthened, gathered themselves together in a curved form, showed transverse marks of segmentation, and divided into two to five pieces of different length; the process lasted from twenty-five minutes to one hour. The new pieces congregated and thus formed additional bundles. This is a new form, leptothrix oculorum Sorokini. In an eye affected with panophthalmitis after iridectomy, and also in an existing catarrh of the lachrymal passages, he found filaments dividing dichotomically, having a thickness of 2 or 3 division marks of the micrometer; they also exhibited transverse division, and thus formed widened rings. The twigs branch off only where there are transverse divisions. Besides these, there were folds of cells of various size and shape. All attempts at cultivation failed.

517. RAMPOLDI. Dell' iridectomia considerata come atto premunitorio alla estrazione della catterata. *Annal. d' Ottalm.*, vol. x, 2. On the basis of 18 extractions according to Gräfe, which Quaglino had performed on decrepit persons in whom a preliminary iridectomy had been made two weeks or several months previously, the author thinks that a certain preservative action ought to be ascribed to the preliminary iridectomy. DANTONE.

518. SPENCER WATSON. Modification in cataract operation. *Med. Times and Gaz.*, May 7, 1881, p. 525.

519. TARTUFERI e ALBERTOTTI. Sulle variazione del valore di R. consequenti alle evacuazione dell' umor aqueo. *Ann. d' Ott.*, vol. x, 3.

520. THEOBALD. Report of section on ophthalmology and otology. Transact. of the Med. and Surg. Faculty of Maryland, 1881. T. divides the diseases of the eye, according to their therapeutics, into four classes: those treated with astringents (alum, zinc, silver nitrate); those in which atropine is indicated;

those requiring general medication; and those in which glasses are employed.

521. VERDE, SALVATORE. La chirurgia oculare conservativa. Morgagni, fasc. 5. Maggio, 1881.

522. WADSWORTH. Neurotomy of the optic and ciliary nerves. Amer. Ophth. Soc. Fifteen clinical cases.

523. WILSON. A brief consideration of 20 cases of foreign bodies in the eye. *The Canada Lancet*, May 2, 1881.

524. WOLFE, J. R. On artificial pupil. (*Med. Times and Gaz.*, June 1, 1881, p. 611.) In a lecture delivered at Anderson College, W. gives the indications for the operation, and, among the contra-indications, says that in occlusion from specific iritis no operation should be attempted till twelve months after all disappearance of irritation in the eye. During the twelve months' interval the patient is to be kept on iodide of potassium and mercury. W. describes the operation and points of selection. He deprecates the employment of iridotomy. FITZGERALD.

III.—INSTRUMENTS AND REMEDIES.

525. BRADFORD. **Electro-magnet** for the removal of foreign bodies from the eye. The instrument was demonstrated by Derby at the meeting of the Amer. Ophtham. Soc. These ARCHIVES, vol. x, p. 236.

526. BROWNING. A binocular ophthalmotrope. These ARCHIVES, vol x, p. 249.

527. BULLER. Case of **sudden and complete blindness after large doses of quinine.** These ARCHIVES, vol. x, p. 327, and Trans. Amer. Oph. Soc. After seven doses of 20 grains, blindness, with large immovable pupils. Around the cherry-red macula was a gray opacity of the retina. After a blindness of 60 hours vision began to be restored. After five days blue and red were distinguished and fingers were counted. On the eighth day all the colors were recognized in a subdued light. The retinal vessels small, the discs pale. Only a long time afterward S = $\frac{20}{30}$. Treated with nitrite of amyl.

528. CARRERAS-ARAGÓ. Echelles métrico-décimales. *Intern. Ophth. Congr. of Milan*, Report, p. 245. For the measurement of acuteness of vision and the determination of astigmatism.

529. DEL TORO. Intoxicacion de la atropina en los instilaciones a los ojos. *La Crónica Oftal.*, 1881, July.

530. FRÖHLICH. Celluloid protectors. *Klin. Monatsbl. f. Augenh.*, p. 449.

531. GALEZOWSKI. Dell' omatropina e della sua azione sull' occhio. *Trad. d. Bountah. Ann. d'Ott.*, vol. x.

532. GATTI. Amaurose passagère consécutive à l'administration du salicylate de soude. *Courier Méd.*, 1881.

533. GREEN. Iridectomy with division of an anterior synechia by the use of Wecker's pince-ciseaux. *Amer. Ophth. Soc.*, 1881.

534. JAVAL ET SCHIÖTZ. A new **optometer** and a **practical ophthalmometer,** demonstrated at the *Intern. Med. Cong. of London.* These ARCH-

IVES, vol. x, p. 335. *Berl. klin. Wochenschr.*, No. 40. *Ann. d'Ocul.*, vol. lxxxvi. *Intern. Ophth. Congr. of Milan*, Report, p. 12. The optometer consists of three superimposed rotating discs of 30 *cm.* diameter, with a series of glasses at the periphery of the discs, the first one of positive spherical, the second of negative spherical, the third of cylindrical glasses. The latter can be rotated in such a manner that their axis will occupy any desired inclination. In the ophthalmometer the plano-parallel glass-plates of *Helmholtz's* apparatus are replaced by a *Wollaston* double refracting prism.

535. JOX, WEBSTER. A new refraction ophthalmoscope. *Lancet*, Sept. 24, 1881.

536. KLEIN. Artificial eyes. *Real-Encyclopädie*, vol. vii.

537. KRÖMER. The use of antiseptic solutions of atropine and eserine. *Corresp.-Blatt. f. Schweizer Ærzte*, vol xi.

538. LANDOLT. Blépharostat. *Intern. Ophth. Congr. of Milan*. Report, p. 210.

539. LIBBRECHT. Instrument pour opérer les cataractes secondaires. *Intern. Ophth. Congr. of Milan*, Report, p. 113. A forceps, with one fixed and one movable branch; the fixed branch has at the end the shape of a linear double-edged knife, with a longitudinal furrow, into which the other branch is fitted.

540. LITTLE. Homatropine hydrobromate; is it a powerful mydriatic? *Phila. Med. Times*, 1881, Feb. 26th. Homatropine is less active than atropine.

541. LORING. Kératomètre. *Intern. Ophth. Congr. of Milan*, Report, p. 157. Upon a metallic disc are placed a number of plano-convex discs, which on their back have a representation of the iris; the discs have different curvatures. The instrument is then placed alongside of the eye to be examined, and it is then seen upon which disc the reflex image of an object shows the same size as the cornea which is being examined.

542. MARTIN. Communication **sur l'emploi de la lumière bleue combinée avec la lumière blanche dans la thérapeutique oculaire.** *Intern. Ophth. Congr. of Milan*, Report, p. 16. Blue and white glasses are put in one frame, and united by Canada balsam. This combination is said to have a peculiar action upon the eye, to strengthen the eye, favor nutrition, and increase innervation (?). *Gariel* properly remarks in the discussion that such a combination cannot effect any thing else than to produce a light blue.

543. MAZZA. Sondes creuses pour le traitement des fistules capillaires et des dacryocystites. *Intern. Ophth. Congr. of Milan*, Report, p. 206.

544. MONTARDIT. Optometro-astigmometro. *Revista d. Ciencias Méd.*, 1881, July.

545. OLIVIER. The **comparative action of homatropine and the sulphate of atropia upon the iris and ciliary muscle.** *Amer. Journ. of the Med. Scienc.*, 1881, July. $\frac{1}{40}$–$\frac{1}{20}$ grain of homatropine does not paralyze accommodation, an effect which is produced by atropine; $\frac{1}{10}$ grain dilates the pupil ad maximum, but the action is not as rapid as that of atropine, and the effect disappears sooner. Homatropine, when absolutely neutral, does not

irritate the conjunctiva. $\frac{1}{40}$–$\frac{1}{20}$ grain does not cause any constitutional symptoms.

546. PEREZ, CABALLERO. La oftalmometria, procedimientos y aplicaciones. *Revista especial de Oftalmologia*, 1881, August.

547. PETTORELLI. De la nitro-atropine et de la nitro-daturine; leurs effets sur l'organe de la vue. *Intern. Ophth. Congr. of Milan*, Report, p. 203. 0.02 of the alkaloid is dissolved in 10.0 of water; rapid and long-continued dilatation of the pupil.

548. RAEHLMANN. Hyperbolic lenses. *Klin. Monatsbl.*, p. 303. There are two systems of hyperbolic lenses: in the one, A, the axis of the hyperbola is $\frac{1}{2}$ *mm.*; in the second, B, 2 *mm.*. Either system has 11 numbers. The glasses of the system A are stronger. The principle of classification is the elevation of the cone of the asymptote, which, upon a basis of 30 *mm.*, belongs to the corresponding hyperboloid.

549. REGNAULD ET VALMONT. L'atropine. *Journ. de Pharm. et de Chimie*, 1881, July.

550. RISLEY. The sulphate of hyoscyamia as a mydriatic. *Phil. Med. Times*, 1881, Feb. 26. RISLEY used this mydriatic in eight cases, and found that in quickness of action it is more similar to that of atropine than of duboisine. S. M. BURNETT.

551. RISLEY. Comparative value of the mydriatics, including the sulphates of atropia, duboisia, and hyoscyamia, and the hydrobromate of homatropia, for the purpose of determining errors of refraction. *Amer. Ophth. Soc.*, 1881, July 27.

552. SALTINI. Sull' impiego del bisulfato de chinino nella cura dell emeralopia idiopatica. *Ann. d' Ott.*, vol. x, 1.

553. SAMELSOHN. The therapeutic action upon the eye of nitrite of amyl. *C. f. A.*

554. STEVENS. Self-registering perimeter. *Intern. Med. Congr. of London.* These ARCH., vol. x, p. 231.

555. SEELY. Prevention of the irritating effects of atropia. *Cincinnati Lancet and Clinic*, March 26, 1881. Astringents or the yellow oxide of mercury are used in order to prevent the irritating action of atropine.

556. SZIKLAI. Intoxication par la pilocarpine. *France Méd.*, No. 27, Sept. 23, 1881.

557. THEOBALD. Remarks upon the use of **duboisia in ophthalmic practice**, with report of a case in which alarming constitutional symptoms followed its application to the eyes. *Maryland Med. Journ.*, vol. viii. T. thinks the toxic action of the drug more likely to manifest itself in an uninflamed eye than in one that is inflamed. Its unpleasant effects are manifest within an hour after it is applied to the eye. SWAN M. BURNETT.

558. WORRELL. Duboisine caused in one case narrowing of the visual field with diminution of vision (glaucoma). *Amer. Ophth Soc.*, July 27, 1881.

IV.—ANATOMY.

559. ANGELUCCI. The structure of **Descemet's membrane and the development of Schlemm's canal and Fontana's spaces in their relation to the etiology of glaucoma.** *Intern. Med. Congr. of London.* These ARCH., x, p. 341. *C. f. A.*, p. 314. Descemet's membrane is a product of the corneal endothelium. Fontana's canal is produced in the fœtus by the entrance of the aqueous humor between the elements of the iris, choroid, and the insertion of the ciliary muscle. Descemet's membrane does not participate in the formation of Fontana's canal.

560. AYRES. The development of the eye. *New York Med. Journ.*, July, 1881. This article treats especially of the development of the lens, which at first is hollow and round.

561. BERGER. The eye of Luvarus imperialis Raf. Comparative physiological studies on the coast of the Adriatic Sea. Vol. iv, Heidelberg, 1881.

562. BEYER. Persistent hyaloid artery, Cloquet's canal, and fissure at the optic-nerve entrance. *Prager Med. Wochenschr.*, Nos. 34 and 35.

563. CARRIÈRE. The eyes of Planaria polychroa, SCHMIDT, and Polycelis nigra. *Arch. f. Microsc. Anat.*, vol. xx, 2.

564. CHARNLEY and FOX. Three cases of new formation of blood-vessels in the vitreous. *Royal London Ophth. Hosp. Rep.*, vol. x, 2.

565. HAAB. **Anatomical examination of an anophthalmus at the age of 27.** Ophthalmological contributions on the occasion of the jubilee of HORNER. Wiesbaden, 1881. The ocular muscles normally developed; the globes appeared as small nodules, the size of a bird-shot; the optic nerves were delicate, thin threads, the orbits of normal size. Sclerotic, choroid, pigment epthelium, retinal elements, and vitreous could be demonstrated in the eye, but no conjunctiva, cornea, iris, ciliary body, and lens. The optic nerve consisted only of connective tissue. The optic tracts could be followed as white strings up to the corpus geniculatum internum. The corpus geniculatum externum was absent: the pulvinar thalami optici distinctly smaller. The thalamus and corpora quadrigemina could not be distinctly traced.

566. HIRSCHBERG. Coloboma and microphthalmus. *C. f. A.*, September. Congenital microphthalmus is in some cases combined with amaurosis, opacity of the lens, diminished tension, cyclitis, and coloboma of the iris. Hirschberg has observed four cases of this kind.

567. LEGAL. The **development of the naso-lachrymal duct in mammals.** *Inaug. Dissert.*, Breslau, 1881. In the embryo of the hog the lachrymal canal is solid at the beginning; it develops from the deeper layers of the epidermis at the lachrymal groove into the connective tissue, becomes detached from the epidermis, except at the posterior end, at the inner canthus, and with its anterior end it becomes connected with the nasal cavity. The detached solid epithelial cord forms the subsequent lachrymal duct and the upper canaliculus; the lower one proceeds from it, but not reaching the surface of the lid remains useless. The formation of the lumen begins at the ocular end and is brought about by the sequestration of the epithelial cells. Also in rabbits and mice the lachrymal canal is at the beginning a solid proliferation of cells,

which starts from the lachrymal groove, becomes detached, and finally transformed into a canal. The same process probably takes place in all the amniotic animals.

568. LEYDIG. **The eye-like organs of fishes.** Bonn, 1881. Certain spots upon the ventral surface of some sea-fishes, which by LEUCKART had been explained as secondary eyes, are not taken as organs of special sense by LEYDIG, who supposes that they are allied to the spendo-electrical or electrical organs of other fishes.

569. MICHEL. The layer of nerve fibres of the retina. *Verhandl. der phys.-med. Gesellsch. zu Würzburg*, ii series, vol. xv, Nos. 3 and 4.

570. MICHEL. **Iris and iritis.** *G. Arch. f. Ophth.*, vol. xxvii, 2. I. HISTOLOGY. The proper substance of the human iris is enclosed between two membranes: the anterior limiting membrane is a delicate layer of endothelial cells; the posterior one consists of peculiar cellular elements; upon its posterior surface is a pigment layer of nearly round, irregularly arranged pigmented cells. Behind the endothelial membrane is a layer of anastomosing cells interspersed with lymphoid cells, and resembling the reticulated structure of the lymphatic glands; for this reason MICHEL calls it the reticulated layer. Behind this layer, and partly projecting into it, is a radiating trabecular arrangement of connective-tissue fibres; these trabecles support the numerous blood-vessels and nerves; they are covered with flat cells, and the spaces between the trabecles, and between these and the posterior limiting membrane, are filled with a reticulum of cells, arranged in a similar manner as in the reticulated layer. For this layer Michel proposes the name "vascular layer." From in front backward the iris consists, therefore, of the following layers: 1, anterior limitans (endothelial membrane); 2, reticulated layer; 3, vascular layer; 4, posterior limitans; 5, pigment layer. From its histological elements the iris would appear to be a modified glandular structure. The system of lacunæ are lymphatic cavities in which the nutritive material, filtered from the blood-vessels, is collected; the anterior chamber is a large lymph-cavity. II. DEVELOPMENT. 1, In the human embryo the development of the sphincter portion takes place very early; that of the ciliary portion at the end of the sixth month. 2. The pupillary membrane is a pellicle which contains nuclei, epithelial cells, and blood-vessels; the latter two disappear, and the pupillary membrane becomes the endothelial layer upon the anterior surface of the iris. 3. At a certain period of fœtal life there is a fold in the ciliary portion, the plica iridis. If the two opposite surfaces of the pupillary membrane are not separated, the so-called membrana pupillaris perseverans will be formed. 4. At a certain period of fœtal life the posterior portion of the iris shows three layers: the pars ciliaris retinæ; the pigment layer; the limiting membrane. The pars ciliaris retinæ becomes pigmented and disappears. 5. The pigment layer and limiting membrane send projections into the sphincter portion; the largest and most strongly pigmented projection is at its peripheric portion, the so-called pigment spur. 6. During embryonic life smooth muscular fibres cannot be demonstrated in any part of the posterior limiting membrane. 7. During the last months of embryonic life, and in the new-born the posterior portions consists of only two layers: the pigment layer and the limiting membrane 8. The limiting membrane must be taken as a continuation of the primitive limitans

retinæ. 9. The projections from the posterior limiting membrane into the sphincter are the connective-tissue septa, which separate the bundles of the muscle. The pigmentation of the so-called stroma of the iris is of post-fœtal development.

571. NINIER. De la région maculaire au point de vue normal et pathologique. *Arch. Génér. de Méd.*, 1881, Sept.

572. OGNEFF. **Histiogenesis of the retina.** *Centralblatt f. d. Med. Wissenschr.*, No. 35. 1. In the earliest stages (rabbit's embryo) the retina consists throughout of spindle-shaped cells with oval nuclei and a narrow zone of protoplasm. From both ends of the cells, which lie on a different level, both inward and outward, are processes which are vertical to the outer surface of the retina and which pass through its entire thickness. Here and there upon the outer surface of the retina are large transparent elements with round nuclei. Distinct membranes which would be taken as the outer or inner limiting membranes are not found at this stage. 2. The next changes are that the innermost cells become divided, larger, and rounder. Their nucleus becomes more distinct and they send off several processes which again form multiple ramifications. The processes, which run inward and of which each cell sends off one only, turn and take a course parallel to the inner surface of the retina. They are the first indication of the layer of nerve fibres. The outermost layer of cells is distinguished by thick, at their inner end foot-like projections ; these elements are the embryonic Müller's radial fibres. The formation of the nerve cells and of Müller's fibres is therefore one of the first embryonic changes in the retina. 3. Then between the nerve fibres and the spindle cells above them there appears a small stripe, the first indication of the molecular layer. At this period the layer consists of numerous processes of the nerve cells, of the straight columns of Müller's fibres and of processes of the spindle cells and numerous very small granules. 4. The layers become more and more developed ; especially the molecular and nerve-cell layers become more sharply defined and thicker. Free nuclei and roundish cells appear in the molecular layer. 5. The differentiation of the retinal layers becomes completed by the formation of the rods and of the two layers of granules. The rods are processes of the outermost layer of cells, which grow beyond the outer limiting membrane. The retina of the mammalia shows the same process of development as that of the birds and batrachia.

573. PREISS. Observations on Descemet's membrane. A contribution to the knowledge of the endothelia and their interstices. *Virchow's Arch.*, vol. lxxxiv.

574. RAMPOLDI. Sopra lo strato intergranulare della retina del cavallo. *Ann. d' Ott.*, vol. x, 3.

575. SAMELSOHN. A case of Diprosopus triophthalmus in a newborn kitten. *Berlin. klin. Wochenschr.*, No 13.

576. SCHNEIDER. The innervation of the ocular muscles in the ganoids. *Jenaer Zeitschr. f. Naturwissensch.*, vol. xv, 2 series, vol. viii, 2.

577. WADSWORTH. The fovea centralis in man. Contribution to ophth. The jubilee of HORNER. Wiesbaden, 1881. It details the different relations of thickness and extent of the fovea in a four-year-old girl.

578. WÄLCHLI. Microspectral examination of the colored globules in the retina of birds. *G. A. f. Ophth.*, vol. xvii, 2. There are three kinds of coloring matter in the globules: sphærorhodin, sphæroxanthin, and sphærochlorin.

579. WALL. Congenital absence of the eyeballs. *N. Y. Med. Rec.*, March 26, 1881. The appendages of the eyes and the lachrymal glands were present.

580. WETSCHTAMON. An anomalous structure of the human eye. *Aerztliche Zeitung*, Nov. 1881, No. 36. Absence of both irides. Both eyes turned in and up.

581. WIETHE. A case of congenital deformity of the papilla. These ARCHIVES, vol xi, No. 1. The papilla showed two dark elliptical depressions.

V.—PHYSIOLOGY.

(Translated by WM. C. AYRES, M.D.)

a.—GENERAL PHYSIOLOGY: CORNEA, IRIS, REFRACTIVE MEDIA.

582. ABADIE. Leçons sur la nutrition de l'œil. *Gaz. des Hôp.*, 1881, Mai.

583. ALBINI. Tavole per le prove attiche in oculistica. Napoli, 1881.

584. DEUTSCHMANN. On the **physiological chemistry of the fluids of the eye.** *Arch. f. Ophth.*, vol. xxvii, 2. In the fresh aqueous humor there is 0.03 of albumen. In the vitreous there is much more than in the aqueous. It increases in both after death; more rapidly in the aqueous.

585. EMMERT. The mechanism of accommodation of the eye. *A. f. A.*, vol. x, p. 407.

586. PFLÜGER, Des oscillations artificielles de la tension intraoculaire à l'état physiologique. *Internat. Ophth. Congr. in Milan*, p. 197. Atropine reduces the intra-ocular tension. Eserine increases it; also the continuous current. Experiments to be continued.

587. SAMELSOHN. **Currents of fluid in the lens.** *Klin. Monatsbl. f. Augenheilk.*, p. 265. The currents in the eye which come from behind forward seem to slacken in Petit's canal, and from there to enter the body of the lens, at its equator. In a centripetal manner they go through the whole lens, and collect at the anterior pole. From this point the fluids pass centrifugally toward the insertion of the zonula, leaving the lens and flowing into the posterior chamber.

588. SCHÖN. The aplanatism of the cornea. Contributions on the occasion of the jubilee of Prof. Horner. Wiesbaden, 1881.

b.—RETINA, OPTIC NERVE, CENTRAL ORGANS, MUSCLES.

589. AYRES, WM. C. The physiology of the visual purple. *New York Med. Journ.*, 1881.

590. DU BOIS-REYMOND. On the **number of circles of sensation in the fovea centralis.** Inaug. diss., Berlin, 1881. (1) The maximum number of points which can be distinguished is not more than half the number of cones. (2) If the entire number of cones is reached, the intermediate spaces become nvisible. (3) In the fovea centralis, the number of the circles of sensation is

equal to that of the cones. (4) In one case the number of cones in 0.01 □ *mm.* was 152.

591. BUTZ. Preliminary communication on the examination of the physiological functions of the periphery of the retina. *Arch. f. Anat. und Phys., Phys. department*, 1881, vol. 5. The sensibility to light of every wave length increases from the centre toward the periphery up to 30°, then decreases more or less rapidly according to the kind of light. The increase in the sensibility to all kinds of light varies; in the most peripheric part of the retina it is highest for violet, and lowest for red.

592. CAMUS. Les cibles (targets) et l'acuité visuelle. *Recueil de Mém. de Méd., de Chir. et de Pharmacie Méd.*, 1881, März–April.

593. GOLTZ. The **functions of the cerebrum.** *Gesam. Abhand.* Bonn, 1881. The supposition of circumscribed centres in the cerebral cortex, with special functions, is untenable, consequently there is no part of the cerebrum which is distinctly set apart for vision. The visual disturbances which occur after traumata to one side of the cerebrum, are symptoms of a general dulness in all the senses, and are caused by a general intellectual dulness. Goltz proposes the term "cerebral diminution of sight, or cerebral amblyopia."

594. KÜHNE and STEINER. Electrical phenomena in the eye. *Arch. of the Phys. Institute in Heidelberg*, vol. iv, 1 and 2.

595. LANDOLT. Des **fonctions retiniennes.** *Arch. d'Ophth.*, vol. 1, 3. The retina has three functions: the perception of light, color, and form. That of light is distributed over almost the whole retina equally; only in a small part around the fovea centralis it is somewhat greater. Perimetrically it extends outward 100°, inward 60°. The color-perception decreases rapidly toward the periphery, but by higher intensities of light colors are recognized to the limit of the field of vision. Perception of form decreases rapidly toward the periphery, so that at 50° from the point of fixation they are no longer recognized. The cause is want of practice.

596. PARENT. **Optométrie ophthalmoscopique à l' image renversée.** *Rec. d'Ophth.*, 1881, Sept. Refraction can be determined in the inverted image in two ways. (1) By gradually moving the object lens to or from the eye, and noticing the change in the size of the image. In emmetropia it remains the same whether the lens is held nearer to or further from the eye. In hyperopia the size of the image decreases when the object lens is removed from the eye examined. In myopia it increases under the same conditions. (2) By observing the parallactic displacement, in comparison to a certain amount of upward motion of object lens. If we move the lens in the vertical plane, the image changes as follows: in emmetropia to an equal extent; in myopia to a lesser extent; in hyperopia to a greater extent. If we place certain glasses before the eye examined, and make these experiments, we can almost tell the amount of the anomaly of refraction by trying until the motions correspond to what they should be in emmetropia.

597. PARINAUD. Sensibilité oculaire. *Progrès Méd.*, No. 26.

598. PARINAUD. L'héméralopie et les fonctions du pourpre visuel. *Gaz. Méd.*, No. 34.

599. QUIOC. Mémoire sur la déviation conjuguée des yeux et de la rotation de la face. Paris, 1881. Delahaye, p. 46.

600. SAMELSOHN. Incongruence of the retinæ. *Deutsche med. Wochenschr.*, June 4, 1881.

601. SCHIRMER. Makropsia and mikropsia. Lexicon article. *Real-Encyclop.*, vol. viii.

602. SCHÖN. Venous pulsation in the retina. *Klin. Monatsbl. f. Augenheilk.*, p. 345. 1. Venous pulsation is a phenomenon of impediment. 2. The exit of the usual quantity of venous blood is diminished by compression. 3. The pulsation is brought about by arterial pulsation. 4. The region in which this happens must include the optic nerve up to the lamina cribrosa.

603. TSCHERMAK. The physiology of eye. The **Plateau-Oppel phenomenon**, and its position in the series of homogeneous phenomena. *Militär-med. Jour.*, June–July, 1881. After observing a rectilinear or circular motion for a long time, we can see a contrary after-motion in stationary objects. The apparent motion is only to be seen on the edges of the object observed. It appears in the centre as well as at the periphery of the retina. It is, however, necessary that we look steadily at one point of the moving object. The after-motion does not make the impression of an actual displacement, but more as if a cloud was moving over the object. The after-motion is not continuous, but periodical. The rapidity and duration of the after-motion increase up to a certain point with that of the inducing motion. Tschermak furnishes the following explanation. The motion of the image on the retina causes an unequal excitation at the anterior and posterior edges of the image. This irregularity causes an irregularity in the phases of the after-image. In front the positive after-image causes contrast, while behind the negative after-image induces a corresponding induction. As the result of this irregularity, the induction-wave in the first motion can only go backward (or in the opposite direction). The motion of the wave is transformed in the field of vision into a real motion in the opposite direction. The phenomenon therefore belongs to the class of after-images, and, strictly speaking, ought to be called reversed after-motions.

c.—COLOR-PERCEPTION.

604. BJERNUM. **Hemianopia for colors.** *Dansk. Hosp. Tidende*, Jan. 18, 1881. Total color-blindness in the left half of the field. The margin passed precisely through point of fixation in a vertical direction. There was an acute brain trouble, at least the patient complained of a severe headache, and died suddenly. He was 39 years old. Unfortunately there was no *post-mortem*. Bjernum cites this case in upholding a theory of the existence of a color centre. (Samelsohn reported a similar case in November of this year.)

605. BRAILEY. Report of the committee of the Ophthalmological Society on color-blindness. *Trans. Ophth. Soc.*, vol. i, p. 191. *Brit. Med. Jour.*, April 23, 1881. *C. f. A.*, Sept., p. 289. There were 18,088 patients examined—16,431 men and 1,657 women—with Holmgren's worsteds test. Of the men, 949 were Jews, showing 4.9 per cent., and 491 Quakers, showing 5.9 per cent.; 145 deaf-mutes with 13.7 per cent. of color-blindness. Of the remaining 14,846 men (of all conditions) there were 3.5 per cent. color-blind. Among the

women there were 730 Jewesses with 3.1 per cent., 122 deaf-mutes with 2.4 per cent., and 216 Quakers with 5.5 per cent. Among the remaining 489 women, 0.4 per cent. were color-blind. This unusual number among women is explained by the fact that Brailey says that in them it was not very pronounced. It was first doubted in the reference in the *Centralblatt*, and absolutely contradicted by Cohn, of Breslau, that such a difference is found between the higher and lower classes, as Brailey says that in the lower classes he found 3.7 per cent., and in the higher only 2.5 per cent. All who could not distinguish the paler shades were classed as slightly color-blind; those who confounded red and green as pronounced. There were 615 of the latter class, and 3 cases of total color-blindness. It was very seldom that blue and violet were mistaken for one another. Those who compared pink with deep blue, or violet and scarlet with dark green were considered red-blind. Those who compared pink with gray or green, and scarlet with light green or light brown, were considered green-blind. The red-blind had no perception of light coming from the distance through a red glass, while those who were green-blind distinguished it perfectly. Red-blindness appears to be somewhat more frequent than green-blindness in England. The intelligence of the person had no connection with the color-perception. It was hereditary.

606. CARRERAS-ARAGÓ. El Daltonismo y los alteraciones visuales en las empleadas de las ferro-carriles. *Rev. de Ciencias Med.*, August.

607. CARTER. On color-blindness. *Med. Times and Gazette*, June 11, 1881, p. 654. Three lectures delivered at the Society of Arts. In the third lecture C. advocates legislation as regards seamen and railroad employés.

608. DONDERS. Sur les **systèmes chromatiques.** *An. d' Oc.*, Sep., 1881. *A. f. Ophth.*, vol. xxvii, 1. The first part is principally historical. He argues against Hering's theory, and also for the separate condition of a red- and a green-blindness. There are four primary colors: red, yellow, green, blue; and 5-6000 color impressions.

609. DOR. Perception of colors. Intern. Med. Congr. in London. These ARCHIVES, x, p. 339. The perception of colors takes place in the brain or optic nerve, but not in the retina.

610. DOR. De **l'état actuel de nos connaissance sur le Daltonisme.** *Intern. Ophth. Congr. in Milan*, p. 179. Discusses the priority of Holmgren's method. As early as 1859 he used a similar method, employing the same test colors. Since he did not publish it, Holmgren could not have known it. He rejects the classification into red-, green-, and violet-blindness, and admits five kinds: total color-blindness; red-green blindness, with normal or shortened spectrum; blue-yellow blindness, with normal or shortened spectrum. Holmgren's method is not a certain one. Rejects the Young-Helmholtz's theory. Delbœuf's cure for color-blindness is in reality no cure.

611. DE FONTENAY. Om. farvesansquelser. *Hospitals-Tidende*, July 28, 1881. Recommends a systematic education of the color-sense in school.

612. DE FONTENAY. Kontrol med Farveblindheden. *Hospitals-Tidende*, Sept. 14, 1881. He examined 2,737 men, finding 3 per cent., and 502 women with 0.6 per cent. of color-blindness in railroad employés. (See another paper

by the same author, based on the examination of 9,659 persons. These ARCHIVES, vol. x, p. 8, etc.)

613. GALEZOWSKI. Daltonisme pathologique; communication faite à la Soc. de Biologie. *Gaz. des Hôpit.*, May 31, 1881.

614. GEISSLER. On color-blindness. A review of the newest investigations. *Schmidt's Jahrbücher der ges. Medicin.*, vol. cxci, 1.

615. HOLMGREN. One-sided color-blindness. *Upsala läkaref. förhandl.*, vol. xvi, 2–4.

616. JÄGER. Method of educating and developing the color-sense. *Natur*, No. 47. Recommends the system of Magnus.

617. JEFFRIES. On the expression of color-blind people. Americ. Ophth. Soc. at Newport, July 27–28. Their expression is restless and anxious, aimless, etc.

618. JEFFRIES. On some points in regard to color-blindness *Journ. of Nervous and Mental Disease*, July, 1881. Jeffries contests the assertion of Bannister that color-blindness can have no practical bearing in railroading, it being a well-known fact that color-blind people can perfectly distinguish colored signals.

619. KAISER. Association of words with colors. *A. f. A.*, vol. xi, 1.

620. KEERSMAECKER. Le Daltonisme et les altérations du sens visuel en général chez les agénts de l' administration des chemins de fer. Rapport présenté à M. le Ministre des Travaux Publics, Bruxelles, 1881. Compare report of *Internat. Ophth. Congr. in Milan*, p. 193. Railroad employés should be examined by surgeons of the company: 1, in regard to their vision (uncorrected) by artificial light; 2, their color-perception for the woollen tests; 3, their field of vision, both for the hand and the color tests. If any thing abnormal is discovered by such tests, the person should be brought before a commission, consisting of three railroad directors and an oculist, and tested with Keersmaecker's chromoptometer. He closes with remarks on the dispute between Warlomont, Mœller, and Keersmaecker.

621. KOLBE. Color-blindness, and its relations to practical life. *Neue Dörpt'sche Zeitung*, July 10 and 11, 1881.

622. KRONER. The Talmud and colors. *Augsburger Allg. Zeitung*, No. 256.

623. MACÉ ET NICATI. Contribution à l'étude du **champ visuel des couleurs.** *A. d'Ophth.*, vol. i, p. 506. A red, a green, and a blue glass is held successively before the eye, and it is determined how far a white piece of paper can be distinguished on the perimeter. The field for red is most contracted on gradually diminishing the intensity of light. Atrophy of the optic nerve and glaucoma show the narrowest field for red, by good illumination; and also the most pronounced reduction of central vision, when a red glass is held in front of the eye. In alcoholic amblyopia the central scotoma for red is the most pronounced.

624. MANZ. Remarks on color-perception. *Archiv f. Anthropolog.*, vol. xiii, Aug. 31, 1881. M. criticises the publications of Almquist, Günther, and Magnus.

625. MARÉCHAL. Appareil pur la détermination de l'acuité visuelle et de la vision des couleurs. *Internat. Ophth. Congr. in Milan*, p. 244. Also Amsterdam Cong. in 1879.

626. MAUTHNER. On **colored shadows.** Color tests, and acquired erythrochlcropia. *Wiener med. Wochenschr.*, 1881, Nos. 38 and 39. M. combats Stilling's method of determining color-blindness by colored shadows. He shows that color-blind people can distinguish the shadows when properly produced. The proper way, he says, is that one source of light should send out white light (not an artificial light), and the other a simple colored light. Since Stilling neglected these precautions he did not use the method properly. Mauthner's test with the colored powders, as far as the principle is concerned, is the best, but its application has unavoidable difficulties. As to Stilling's tables, he says: The tracing of the letters is so difficult that he admires the courage of any one who establishes color-blindness in those who do not read the letters. As to Cohn's assertion that Stilling's new table II is the best method of determining color-blindness, M. remarks, that independent of the inutility of the tables, this recommendation is peculiar, since this table II was only printed as an experiment, and according to Stilling's own assertion was not intended for publication, and was only produced on account of an error in the other tables. M. thinks that the problem of the pseudo-isochromatic letters is insoluble.

627. Methodical education of the sense of color. *Kindergarden Messenger and the New Education.* Official organ of the American Froebel Union, Syracuse, Sept., 1881. Recommends the method of Magnus.

628. OLE BULL. A new **method of examination and numerical determination of the sense of color.** Internat. Med. Cong. in London. These ARCHIVES, vol. x, p. 337. A color plate is used. The method is based on a uniform pureness and intensity of four primary colors, viz.: red, green, yellow, and blue. There are six shades of these colors divided off, so that each one of them can be rotated on Maxwell's wheel with gray of the same intensity, and also with its complementary color. The shades are then reproduced in pigment and combined on a table. The table contains eighty shades of color in all. The method of examination is according to Holmgren's principle, viz.: that the patient is shown a colored or uncolored quadrant, and is desired to pick out another similar to it. The table is held at one metre from the person examined. B. refers to a similar table published by Bruno Kolbe.

629. PARINAUD. Des modifications pathologiques de la perception de la lumière, des couleurs, et des formes, et des differentes espèces de la sensibilité oculaire. *Gaz. Méd.*, No. 29.

630. PIERD'HOUY. **Une visite aux aliénés de la province à Mombello.** *Internat. Ophth. Cong. in Milan*, p. 162. In Italy Daltonism is not so frequent as in Northern Europe. This is due to climatic and geographical influences, and also to the great vocabulary of words denoting colors. Among 900 insane persons there was not one case of Daltonism. Violet was the color, distinguished with most difficulty. A majority of those suffering from melancholia shrank from bright colors.

631. PFLÜGER. On the diagnosis of color-blindness. *C. f. A.*, July. According to P's. earlier investigations Holmgren's method is not a sure one. In two army surgeons who were color-blind, it could not be detected according to it, but they could not read Stilling's tables.

632. PFLÜGER. Polariscope. *Internat. Ophth. Cong. in Milan*, p. 179. The quantitative excitability of the centre of the retina by homogeneous light was determined with polarized colors produced by Rose's apparatus.

633. PFLÜGER. Further observations on color-blindness. *A. f. A.*, vol. xi, 1.

634. RICHI. Sur la question de la cécité des couleurs. *Internat. Ophth. Cong. in Milan*, p. 217. Color-perception is more acute in southern countries than in northern. The examination of railroad employés should be made by an oculist, and not by a general physician.

635. ROBERTS. Detection of color-blindness and imperfect eyesight. London, 8, No. 6.

636. SANROMAN. Estudios sobre el Daltonismo aplicado à la navigacion. *Bolet. de Méd. Naval*, No. 9.

637. SCHENKL. On the **diagnosis of red-green blindness.** *Prager med. Wochenschr.*, 1881, Nos. 19–27. Holmgren's method is recommended. Magnus' table in conjunction with the woollen test is useful. Stilling's new table not convenient. The diagnosis of color-blindness is not made with certainty according to Stilling's new table II, which Cohn recommends too highly. Mauthner's modification of Donders' pseudo-isochromatic test is to be recommended. Cohn's embroidered letters are not good. Daae's table may be used, but is difficult to understand for people of low intelligence. Mauthner's powders are highly recommended. Stilling's colored shadows are not easy of application, since color-blind people may recognize colored shadows. Pflüger's table in combination with woolen tests useful. Successive contrast looking-glass reflections not trustworthy. Reports an exquisite case.

638. V. SEYDEWITZ. On color-blindness and the development of the color-sense. *New Orleans Med. Journ.*, vol. ix, 2, Aug., 1881.

639. STEFFAN. Contribution to the pathology of color-perception. *A. f. Ophth.*, vol. xxvii, 2. From clinical reasons S. considers that there is a bilateral color centre in the gray substance of both occipital lobes of the brain. Accordingly the seat of congenital color-blindness must be in the brain ; it can also be caused by certain conditions which lie exterior to the chiasm, either in the optic nerve or in the retina. Reports an exquisite case.

640. STILLING. Sur la **détermination pratique du Daltonisme.** *Intern. Ophth. Cong. in Milan*, p. 187. He distinguishes: 1. A red-green blindness with normal quantitative perception for red ; in this the spectral red appears yellow. 2. Red-green blindness with a shortened spectrum at the red end (red-blindness) ; in this the spectral red seems black. 3. Blue-yellow blindness with normal quantitative perception of blue. 4. Blue-yellow blindness with shortened spectrum at the blue end. It is of no importance whether we use Holmgren's woolen tests, or the pseudo-isochromatic tables, if we only use the true confusion colors.

641. SZILÁGUI. On monocular mixing of colors. *C. f. d. Med. Wissensch.*, 1881, No. 28. Two crown-glass prisms (4°–8°) so placed that their refractive angles touch each other, form a suitable apparatus for monocular mixing of colors. In thus mixing two complementary colors phenomena are produced resembling those of the binocular struggle for preponderance.

B.—ANOMALIES OF REFRACTION AND ACCOMMODATION, LIDS, LACHRYMAL APPARATUS, MUSCLES AND NERVES, ORBIT AND NEIGHBORING CAVITIES, CONJUNCTIVA, CORNEA, SCLEROTIC, AND ANTERIOR CHAMBER.

BY DR. C. HORTSMANN.

Translated by WILLIAM C. AYRES, M.D.

I.—REFRACTION AND ACCOMMODATION.

642. MEYER. Myopia in the schools of different nations. *Rev. méd. franç. et étrang.*, Feb., 1881.

643. COLLARD. The condition of the eyes of the students of the university in Utrecht. *Nederland Gasthuis for Ooglijders*, vol. xxii, p. 73.

644. NETOLICZKA. Myopia in the students of the Grazer intermediate school. xxx. Report of the Steiermärk'sche Landes-Ober-Realschule.

645. S. D. RISLEY. **Weak eyes in the public schools of Philadelphia.** *Phil. Med. Times*, July 30th. There were 2,422 scholars examined. In the lower classes R. found 4.27 per cent. of myopes,—the frequency increasing as the classes were higher. Myopia was not so frequent as in the European schools. There was a larger percentage of diseases in myopic eyes than in emmetropic and hypermetropic; myopic astigmatism was more frequent than simple myopia. The number of hyperopes was larger than that of the myopes and emmetropes combined. The methods of education had a great influence on the occurrence of progressive myopia.

646. BURGL. On testing the vision of recruits. *Deutsche Militär-ärztliche Zeitschr.*, H. 7, p. 148. The author recommends the *optometric* method in testing both the power of vision and the refraction of the eyes of recruits.

647. WARLOMONT. On the use of the optometer in examining the eyes of soldiers and of railroad employés. *Brit. Med. Journ.*, March 5th.

648. E. BRÖCKMANN. A trial case with combination glasses. *Norsk Mag.*, vol. ii, 3, p. 209. The case contains 14 glasses by a combination of two of which all convex and concave spherical glasses from 0.5 to 20 D can be produced. BULL and SCHJÖTZ.

649. PARENT. **Ophthalmoscopic optometry in the inverted image.** *Recueil d'Ophthalm.*, Sept., p. 544. P. recommends the study of the deter-

mination of refraction by the inverted image, by successively moving the object glasses to and from the eye and observing the change in the size of the papilla, or by determining the position of the image in regard to the position of the object lens.

650. LEROY. The theory of astigmatism. *Arch. d' Ophthal.*, vol. 1, 4, March–April.

651. AYRES, WILLIAM C. Notes on **the focal lines in astigmatism.** *N. Y. Med. Journ.*, Nov. A. attempts to account for the shorter radius of curvature of the normally as well as the abnormally astigmatic eye being in the vertical meridian by the manner in which the lids are developed. He gives no explanation, however, of those quite numerous cases where the two principal meridians are placed otherwise. He then gives an explanation of the formation of the vertical and horizontal *lines* by the two principal meridians. If the apex of a triaxial ellipsoid is cut by planes perpendicular to its surface in the manner of the spokes of a wheel, the sections will have a twisted surface and the rays of light at homogeneous points will not come to a focus except in the two principal meridians. This is shown by Knapp's thread and wax models. If, however, the planes cut the surface parallel to one of the principal meridians they will represent parts of an ellipsoid with a regular surface which can bring rays to a focus. As, however, the curvature of the triaxial ellipsoid varies as we move from the axis in the direction of each of the principal meridians, the foci of each of these regular ellipsoids will be found at a separate place, but they will all be in a line corresponding to the meridian at right angles to the one in which the rays fall on the surface. In his experimental efforts to verify this, however, by means of Hering's artificial eye, made astigmatic by means of a cylindrical lens placed in front of it, he does not mention the fact that the actual condition of the astigmatic eye is not represented, since we have to do in this case not with a triaxial ellipsoid but an ellipsoid with only two axes. In the triaxial ellipsoid the radius of curvature varies at every successive point even in the principal meridians, and in such a manner as to increase the spherical aberration. Strictly speaking, therefore, it would be impossible for such a surface to form a clearly defined straight line in either focal plane. The focal lines under such circumstances must of necessity be curved. AYRES.

652. LANDESBERG, M. **On the occurrence of regular astigmatism in certain anomalies of refraction and accommodation.** *Gr. Arch. f. Ophthalm.*, vol. xxxii, 2, p. 89. In certain cases of myopia with or without spasm of accommodation, and hyperopia with spasm of accommodation, L. observed regular astigmatism as a result of the accompanying anomaly of refraction or accommodation. It disappeared under proper treatment of the primary affection.

653. SCHIESS-GEMUSEUS (*Klin. Monatsbl. f. Augenheilk.*, vol. xix, p. 384). S.-G. observed the occurrence of **myopia after a contusion of the left eye by a cork.** It was produced by the advancement of the lens, from the trauma, and disappeared after a lapse of 8 weeks.

654. FERRUCIO and ALBERTOTTI. Changes in refraction after emptying of the anterior chamber. *Annal. di Ottalm.*, 1881, Fasc. iii. After emptying of the anterior chamber the refraction increases in an eye with a lens, but

decreases in aphakia. The change of refraction is proportionate to the extent of the exit of the aqueous humor. The cause of this is a flattening of the cornea, and also an advancement of the lens. In aphakia the reduction of refraction is due to the simple flattening of the cornea.

655. SÉDAN. (*Rec. d' Ophthalm.*, Aug., 1881.) S. recommends the use of homatropia in progressive myopia.

656. ALEXANDER. **One-sided paralysis of the sphincter pupillæ and of accommodation, caused by syphilis.** *Deutsche Med. Wochenschr.*, No. 41. Unilateral mydriasis with paralysis of accommodation is generally of a syphilitic origin; the condition belongs to the later symptoms of the disease. The earlier effects of lues are not so bad and pass off quicker; it is in itself incurable, is of a cerebral nature, and must be looked upon as a precursor of psychical disturbances. In 35 of such cases, syphilis was certain in 25, doubtful in 5, while it could be excluded in only 5.

657. CHISOLM. Spasm of the intra-ocular muscle. *Independ. Practit.*, Feb., 1881, Baltimore.

II.—LIDS.

658. DELAPERSONNE. **Palpebral shanker.** *Arch. d' Ophth.*, vol. i, p. 499. D. reports 3 cases of shanker of the lids. In the first case the inner canthus and the caruncle were the seat of the lesion, and in both the others it was on the under lid. Cure in all three cases. v. MITTLESTÄDT.

659. VELARDI. Un caso di **alopecia ciliare alterna**. *Boll. d' Ocul.*, vol. iii, No. 12. A girl 16 years of age suddenly lost her eyelashes after a severe attack of headache. It is remarkable that she lost those of the upper lid of the right eye and those of the lower lid in the left. They grew out again in one month, and have since remained. DANTONE.

660. SALTINI. On the inoculation of chalazia to rabbits' eyes. *Ann. di Ottalm.*, 1881, Fasc. 4. The results were negative.

661. ARMAIGNAC. Simulated chromhidrosis. *Journ. de Médecine de Bordeaux*, April 17, 1881.

662. FOX. Two cases of chomhidrosis. *Lancet*, i, No. 23.

663. BRECHENNIER. Œdème malin des paupières traité par les injections iodées après une cautérisation sans résultat. *Progrès Médic.*, No. 11, p. 202.

664. BUY. De l'œdème malin ou charbonneux des paupières. *Thèse de Paris*, 1881.

665. KNAPP, H. Hemorrhagic infarction of the upper eyelid. *Med. Rec.*, vol. xix, No. 8, p. 216.

666. JACOBI. Angiosarcoma of the eyelid and temple. *Med. Rec.*, vol. xix, No. 8, p. 217.

667. LANDESBERG. Epithelioma of the eyelids. *Med. Bull.*, May, 1881. L. reports three cases of epithelioma of the upper lid which were treated by chlorate of potash in powdered form. All three resulted in cure. BURNETT.

668. STORY. *Brit. Med. Journ.*, April 23, 1881. S. reports a case of sarcoma of the lid.

669. LAWLON, G. A case of primary epithelioma of the lower lid. (Roy. Lond. Ophth. Hosp. Rep., vol. x, 2, p. 200, June, 1851.) In his remarks L. gives the points of differential diagnosis between rodent ulcer and epithelioma. He is satisfied "that rodent ulcer, if left, will in time so change its character as to become true epithelioma." Whether this is due to a mere progress of the disease, or that rodent ulcer is peculiarly apt to have superadded to it the characters of epithelioma, he cannot say. He gives an illustrative case.

FITZGERALD.

670. ABADIE. Rare **symmetrical tumors of the lids.** *Arch. d' Ophth.*, vol. i, p. 432. A girl 16 years old had very hard symmetrical tumors about the size of a hazel-nut on the outer part of the upper lids. They were in connection with the tarsus, and extended deep into the orbit. The skin and conjunctiva were intact. The diagnosis of adenoma of the lachrymal glands was made; one was removed with a part of the tarsus. Two examiners declared it to be tuberculous. Two months after, grave lung symptoms occurred, and the tumor on the left side was removed, which was also tuberculous.

The recovery was good, and the lung symptoms disappeared. She has retained her health for three years. A. does not consider it certain that the tumor was tuberculous, since the microscope alone cannot decide the question.

v. MITTELSTÄDT.

671. COGGIN. The growing in of the eyelashes. *Boston Med. Journ.*, vol. civ, 2, p. 32, Jan.

672. CASTOMYRIS. A method of curing trichiasis. *Anz. der Ges. der Aerzte in Wein*, 1881.

673. PRATOLONZO, PIETRO. On the cure of entropion. *Boll. d' Oculistica*, anno iii, No. 7, p. 92.

674. JOUIN. A simple method of treating entropion due to spasm of the orbicularis. *Revue méd. franç. et étrang.*, March 22, No. 11.

675. BÖCKMANN, E. **Entropion operation.** *Norsk Mag.*, vol. ii, 3, p. 209. When the under lid is entropionized, B. put two needles on a thread and fixed them in the same needle-holder, about 1–2 *mm.* apart. He then stuck the two needles into the under edge of the tarsus from the conjunctival side. The outer skin is drawn down as much as possible. The needles are then passed through the eyelid and the threads securely tied. He applies one or several such sutures according to the extent of the entropium.

BULL and SCHJÖTZ.

676. ELY, E. T. A **successful case of transplantation of the skin according to Wolfe's method.** *N. Y. Med. Journ.*, March 12, 1881. In consequence of a cicatrix the under lid was attached to the cornea. The upper part of the cornea was clear. The lid was detached from the eyeball and brought into its normal position. The defect in the lid was covered with a piece of skin 1" long and ¾" broad from the lower part of the arm. Healing took place *per primam.* BURNETT.

677. ALT, A. An **improved method of operating on certain conditions of symblepharon.** These ARCH., vol. ix, p. 293. In a case of symblepharon where the lower lid was attached to the lower part of the cornea, caused by melted iron. The lid was detached until the globe resumed its nor-

mal motions. Conjunctival flaps were then made from the nasal and temporal sides, reaching to the periphery of the cornea. These were long enough to be united by sutures over the middle of the defect. To protect the fornix both the inferior angle of the conjunctival flap were sewed to the lid by sutures, which passed through the tarsus and were fastened on the outer surface of the lid by beads. The healing was good. Notwithstanding the necessary diminution, the conjunctival sac had a depth of 5 *mm.* after three months. The globe retained its normal motions.

678. BERGER. Autoplasty by transplantation. *Prog. Méd.*, No. 31, 1881.

679. PANAS. **Stretching of branches of the trigeminus as a treatment for painful blepharospasm.** *Arch. d'Ophthal.*, vol. i, p. 385. On account of an intermittent neuralgia of the first and second branch of the trigeminus and blepharospasmus, PANAS stretched these nerves. The supra-orbital nerve was broken, and a piece 4 *mm.* long was removed. After the stretching the pain disappeared immediately in the region supplied by these nerves, and also the blepharospasm. Seven weeks after the stretching of the infra-orbital nerve, the anæsthesia in the region supplied by the nerve was on the decline. While there is complete anæsthesia after the stretching, there are after the division radiating pains for several days. V. MITTELSTÄDT.

680. BAUDRY. Note on a case of emphysema of the lids and orbit. *Rec. d' Ophthalm.*, Aug., 1881. B. tries to prove that emphysema of the lids, which sometimes occurs after violent sneezing or nose-blowing, is caused by a fracture of the inner bony wall of the orbit. In this way air passes from the nose directly into the tissue of the lids and orbit. MARCKWORT.

681. NUEL. A case **of coloboma of the upper lid and the eyebrows.** *Arch. d' Ophth.*, vol. i, p. 437. The case is similar to that of Manz. *Arch. f. Ophth.*, vol. xiv, 2. V. MITTELSTÄDT.

682. V. REUSS. Hordeolum. *Eulenberg's Real-Encyclopedia*, vol. vi, p. 584.

III.—LACHRYMAL APPARATUS.

683. LOPEZ OCAÑA. The diseases of the lachrymal passages. Madrid, 1881.

684. ARMAIGNAC. Remarks upon the etiology and therapeutics of the diseases of the lachrymal passages. *Revue d'Oculist. du Sud-Ouest*, vol. ii, No. 12, p. 265.

685. LAREBIÈRE. Contribution to the study of syphilitic diseases of the lachrymal canals. *Thèse de Paris*, 1881.

686. BOISSON. Chronic dachryocystitis and its treatment. *Thèse de Paris*, 1881.

687. MAUREL. A metrical *filière* (gauge) for the catherization of the lachrymal canals. *Bull. Génér. de Thérap.*, Feb. 15, 1881.

688. ARMAIGNAC. The extraction, by a new method, of a piece of a silver probe, which had remained in the lachrymal canal. *Revue d' Oculist. du Sud-Ouest*, vol. ii, No. 11, p. 241.

689. OTT. **Inflammation of the lachrymal gland terminating in suppuration.** *Rec. d'Ophth.*, Aug., 1881. In a girl 5 years old there had been swelling of the lid of the left eye with chemosis for 5 days. Since the tumor increased and showed fluctuation it was opened. By a deep incision a large amount of pus was evacuated. The above symptoms diminished and the inflammation ceased at the end of 7 days. From the situation of the tumor, the time which the pus required to collect, and the depth of the collection, the lachrymal gland was considered the seat of the disease. MARCKWORT.

690. SCHREIBER. On the **extirpation of the lachrymal sac.** *Gr. Arch. f. Ophth.*, vol. xxvii, 2, p. 283. Extirpation of the lachrymal sac is indicated in the following conditions: in obliteration of the nasal duct and hydrops of the sac; in obstinate dacryoblennorrhœa with stenosis of the nasal duct of long standing, even if the canal can still be sounded; when there is a slight tumefaction in the region of the sac, and thickening of its walls; also in fistula of the lachrymal sac, where the skin is grown together with the walls of the sac on account of a frequent recurrence of a phlegmonous condition; in old catarrh of the sac, since it mostly leads to polypoid proliferation of its mucous membrane. In this condition it is indicated if the canal is perfectly free.

The operation is done in the following manner: At a distance 4 *mm.* from the inner canthus make an incision through the skin 2 *cm.* long. The sac is laid bare, and can be extirpated with a small pair of Cowper's scissors. If any of it remains, it must be removed, with Volkmann's sharp spoon, down to the bone. Also scrape off the mucous membrane of the nasal duct as far as possible. The whole operation and after-treatment must be antiseptic. Results after the method of treatment were always good. (The obliteration of the sac with nitrate of silver is far more simple, is commonly followed by a smooth recovery, and the scar is scarcely perceptible.—KNAPP).

IV.—MUSCLES AND NERVES.

691. FAUCHERON. **Supra-orbital neuralgia and its influence on the eye.** *Rec. d'Ophth.*, 1881, Nos. 2 and 3. If the supra-orbital nerve is cut it has no effect on the eye. If it is otherwise excited, we find such effects as lachrymation, injection of the conjunctiva; later, photophobia and a certain amount of loss of sight.

692. MORSAIS. On the treatment of strabismus. Paris, 1881.

693. WILSON. A case of strabismus convergens. *Phil. Med. and Surg. Report.*, vol. xliv, 10, p. 263.

694. PRINCE, A. E. Contribution to the correction of strabismus by the advancement of the rectus. *St. Louis Med. and Surg. Journ.*, June, 1881. He describes a modification of advancement.

695. HARLAN (Rep. Americ. Ophth. Soc., 1881). H. describes a case of intermittent strabismus convergens in a boy 3 years old. BURNETT.

696. BRAILEY, W. A. **A rare form of muscular asthenopia.** *Trans. Ophth. Soc. of United Kingdom*, vol. 1, p. 188, 1881. A man, 30, of literary habits, had for years had a smarting, "painful cramp" of the eyes from near work; slight compound my. ast. with normal accommodation and vision. Internal recti=34° prism; external recti=6°. Lateral double images produced

by prisms always showed also a slight *vertical* displacement, overcome by prism 5°. By wearing prisms 3° base upward to left eye, with correcting cylinders, his symptoms were removed, and even the vertical prism alone latterly gave the same result. No ordinary glasses were so useful. E. NETTLESHIP.

697. THEOBALD (Americ. Ophth. Soc., 1881). Discussed insufficiency of the recti interni.

698. SCHENKL. **Congenital incomplete development of the levator palp. sup.,** the rectus ext., the rectus int., rectus sup., and inferior oblique muscles in both eyes. *Centralblatt f. Pract. Augenheilk.*, 1881, p. 335. A strong, healthy man, 26 years old, of a healthy family, had normal vision, but suffered from a congenital, incomplete development of the above muscles, in both eyes. Accommodation normal, slight hypermetropia, with S—$\frac{10}{10}$.

699. OGLESBY, R. On nystagmus. *Brain*, vol. iii, p. 160.

700. LAWSON, G. **Voluntary nystagmus.** *Royal London Ophth. Hosp. Rep.*, vol. x, 2, p. 203. A curious case, the second L. has seen. The movements were really an exaggeration of what is seen in lateral nystagmus, but were so rapid that the margins of the cornea could not be defined. FITZGERALD.

701. EALES, HENRY. Miners' nystagmus. *Brit. Med. Journ.*, vol. xlii, p. 159, July, 1881. E. discusses nystagmus in miners.

702. BOUCHAUD. Contribution to the knowledge of spasm of the ocular muscles, unilateral horizontal nystagmus. *Journ. des Sc. Méd. de Lille*, March, 1881.

703. HARLAN. Case of congenital paralysis of the sixth and seventh nerves on both sides. Rep. Americ. Ophth. Soc., 1881. H. describes a case of congenital paralysis of the abducens and obicularis. Vision was diminished on both sides, and not improved by glasses. Fundus normal, nor did the patient complain of diplopia. BURNETT.

704. STURGE, W. A. Two cases of **simultaneous paralysis of both third nerves,** with remarks on ophthalmoplegia. *Trans. Ophth. Soc.*, vol. i, p. 165, 1881. Case 1. A man, 72. Apoplectic attack; consciousness soon regained; paralysis of all third nerve muscles on right side, and all except levat. palp. on left; right old iritis, fundus normal, left pupil dilated and fixed, blindness from old choroiditis, fourth nerve doubtful, sixth nerve normal, paralysis of right fifth (sensory and motor) and facial, and deafness of right ear; complete paralysis of left arm and leg (both sensory and motor). Sphincters normal. Rapid and almost complete recovery of all parts *except the third nerve.* Hand recovered before arm, and arm before leg. Probably a small hemorrhage in the pons.

CASE 2.—Man, 16 years old; liable to headache, vertigo, and vomiting. Sudden apoplectic attack; unconscious for a day. Complete paralysis of all third nerve muscles on both sides; pupils varied in size from day to day, and when not dilated acted a little to light; a few days later paralysis of left sixth. Restlessness and pain in back, no material fever, no optic neuritis. Complete recovery with active but unequal pupils in 7 weeks. Probably a small hemorrhage at nuclei of origin of third nerves. Sturge discusses, ably and at length, the question of different types of ocular palsy from diseases of: 1, the nerve trunk; 2, nucleus of origin; 3, centres for bilateral co-ordinated move-

ments, of which several varieties may be expected, and are in fact met with : *a*, loss of a single co-ordinated action ; *b*, loss of nearly all movements, one or two co-ordinations remaining ; *c*, paralysis of co-ordination alone ; *d*, of dilator pupillæ, *e*, of sphincter pupillæ alone ; *f*, various mixtures of the above. He thinks both the cases recorded were instances of the second type (disease of nucleus of origin). E. NETTLESHIP.

705. BROWNE, EDGAR A. **Ophthalmoplegia interna.** *Liverpool Med.-Chir. Journ.*, July, 1881, p. 1.

Five cases are mentioned, of which syphilis had occurred in four, the interval varying from 3 to 12 years. Early treatment by iodide of potassium in doses as large as the patient can bear, and moderate mercurialization are insisted on. Three of the five cases recovered more or less completely. NETTLESHIP.

706. HULKE, T. W. A **summary of cases of ocular palsy, with comments.** *Ophth. Hosp. Rep.*, vol. x, 2, p. 148. H. has compiled 127 cases. Of these there was paralysis of the external ocular muscles alone in 84 ; same of internal muscles, 19 ; and both together affected in 24. He describes these groups separately, and points out their etiological relations. FITZGERALD.

V.—ORBIT AND NEIGHBORING CAVITIES.

707. PÉAU. Fistula of the frontal sinus. *Gaz. des Hôpitaux*, 1881, No. 9.

708. KNAPP. **Subperiosteal enucleation of an ivory exostosis** of the frontal sinus, extending into the nasal and orbital cavities. Healing by first intention. These ARCH., vol. ix, p. 464. *Trans. N. Y. State Med. Soc.*, 1881, p. 244. Knapp removed subperiosteally an ivory tumor the size of a large walnut from the frontal sinus and adjacent cavities. About two thirds of the mass was in the frontal sinus and nasal cavity, and the remaining one third in the orbit. Its probable origin was the septum of the frontal sinus ; it afterward penetrated the walls of the nasal cavity and the orbit. It showed itself in the inner and upper angle, and extended to a few *mm.* below the lig. canth. int. It produced ptosis of the right upper lid, and often caused a stopping up of the right nostril. The removal of the tumor was indicated, since it had grown within four months. Healing followed by first intention without antiseptic treatment.

The paper published in the Trans. N. Y. State Med. Soc. treats of the whole subject, with abstracts of all the cases known thus far.

709. RICHET. Abscess of the frontal sinus. *France Médicale.*

710. BAYER. The **etiology of double-sided orbital phlegmon.** *Prager Med. Wochenschr.*, vol. vi, No. 23, 1881. B. reports two cases of double-sided phlegmon of the orbit after erysipelas of the face ; they seemed to uphold Leber's theory that such affections do not have an intracranial origin, but are extracranial. The first case resulted in death through infectious meningitis ; the second in recovery with phthisis of the right eye, while the sight in the left was but little reduced.

711. PASSIATORE, Phlegmon of the retrobulbar adipose tissue. *Revista Clinica*, 3 S., vol. i, 2, p. 152.

712. ADLER. **On inflammation of the orbital cellular tissue.** *Wiener*

Med. Bl., vol. iv, p. 736, 1881. A. describes a case of chronic phlegmon of the orbit on the right side, having its origin in a rheumatic affection, and producing temporary exophthalmus. In the next four years the exophthalmus returned and disappeared about ten times, causing gradual diminution of sight. It finally became stationary, leaving atrophy of the optic nerve. The globe was normal both as to motion and tension.

713. ANGELO. Stomma de periosto nell' angelo superiore della cavita orbitaria. Morgagni, April, 1881.

714. SOUS. General symptoms of tumors of the orbit. *Journ. de Méd. de Bordeaux*, 1881.

715. FANO. Treatment of tumors and fistulæ at the inner angle of the orbit. *Rév. méd. franç. et étrang.*, No. 13, March 26, 1881.

716. BULL, CH. STEDMAN. A contribution to the **pathology of orbital tumors,** being a study of the secondary processes in the periosteum and bones of the orbit and vicinity. *N. Y. Med. Journ.*, vol. xxxiii, No. 3, p. 267. Case 1.—Encapsulated orbital sarcoma; extirpation; return in the form of a myxosarcoma. It infiltrated all the bones of the orbit and of the face on the left side. Required three operations. Case 2.—Intra-ocular sarcoma; secondary infiltration of the optic nerve and the orbit. Required four operations. Case 3.—Fibrosarcoma of the orbit, including the periosteum and walls of the orbit, and also the bones of the face. Operation was not advised.
BURNETT.

717. NOYES. (Trans. Amer. Ophth. Soc., 1881.) N. reports two cases of large epithelioma of the inner angle of the orbit. He removed them and covered the defect in the skin by a flap from the forehead. BURNETT.

718. LEDIARD. Epithelioma of the orbit and eyeball. *Trans. Ophth. Soc. of United Kingd.*, vol. 1, p. 7, 1881. A man had a growth cut out of the lower lip at 70. There was, at the same time, a small spot on the right lower lid. A year and a half later this began to grow, æt. 74. L. found extensive ulceration of both right eyelids and granulations encroaching on globe. Removal of growth and eyeball, followed by use of chloride of zinc paste; exfoliation of portions of bone exposing the nasal cavity. Ten months later some gelatinous tissue deep in orbit, but no decided malignant return. The growth was histologically typical epithelioma. E. NETTLESHIP.

719. TREITEL. **Wound of the optic nerve in the orbit, with an intact globe and complete loss of sight.** *Arch. für Augenh.*, vol. x, p. 464. A soldier was stuck in the eye with a sabre, and rendered blind immediately. Besides the external wound in the lid there was also paralysis of the inferior rectus. The pupil was dilated to a medium size, but did not respond to light. After fourteen days the papilla was atrophic. The globe was perfectly intact: no cerebral symptoms; the optic nerve must have been wounded within the orbit.

720. SANTOS, FERNANDEZ J. **Amaurosis from lesions of the eyebrow or orbital region.** The *Amer. Journ. of Med. Scienc.*, Jan., 1881. S. discusses the disturbances of sight after wounds in the orbital region. Some believe that the amaurosis is dependent upon the wounding of a branch of the trigeminus, others that it is due to rupture of the retina, or disturbances in the

brain and its surrounding. S. reports five cases of such wounds, with the following conditions of vision: Three cases which came under observation some time after the injury showed atrophy of the optic nerve; the other two were seen immediately after the accident, and in them the optic nerve was somewhat pale. None of them showed symptoms of glaucoma.

721. TWEEDY, J. **Dislocation of the eyeball through depressed fracture of the floor of the orbit into maxillary antrum.** The *Lancet*, Aug. 27, 1881, p. 375. A middle-aged farmer fell, and was gored in the left eye by a bull. It was supposed that the eyeball had been gouged out, but on the subsidence of the swelling it was found displaced downward, and fixed against the floor of the orbit; the clear cornea looked upward and forward; fundus illuminated through pupil, but no details visible; eye quite blind; enucleation as a precaution; globe firmly adherent by strong fibrous adhesions to the deeply depressed fracture of the floor of orbit. E. NETTLESHIP.

722. VAN DUYSE. **Coloboma of the eye, and a congenital serous cyst of the orbit.** *Annal. d' Ocul.*, Sept.–Oct., 1881. Duyse reports the following case. Left: strong ectropium of lower lid; coloboma of iris, choroid, and sheath of optic nerve. Right: strong ectropium of lower lid; serous cyst of the orbit, with microphthalmus. As a result of the coloboma of the choroid and optic-nerve sheath, the sclera was probably so ectatic that it formed itself into a sac, which became detached from the globe, forming a cyst. MARCKWORT.

723. ABADIE. Exophthalmic goitre. *France Méd.*, No. 12, 1881.

724. TILLAUX. Exophthalmic goitre. *France Méd.*, No. 16, 1881.

725. RAMPOLDI. **A singular case of pulsating exophthalmus.** *Ann. di Ottalm.*, vol. x, 2. A woman, 67 years of age, showed a pulsating exophthalmus, which came suddenly without any known cause. Deafness appeared simultaneously. Compression of the common carotid for about a quarter of a minute caused all pulsation to cease, and the globe to return almost entirely to its normal position. DANTONE.

726. SECONDI. **Pulsating exophthalmus.** Clinical history, etc. *Ann. di Ottalm.*, vol. x, 3. Digital compression was not done in the beginning. Later it was resorted to (once as long as 31 hours). The exophthalmus, pulsation, and noises were not reduced thereby, but the general condition very much improved. DANTONE.

727. NIEDEN. **A new case of pulsating exophthalmus,** oc. utr. *Archiv f. Augenh.*, vol. x, p. 641. Double-sided pulsating exophthalmus occurred in a woman after delivery; she had fallen on the back of her head four months and a half before. The patient could not stand compression of both of the carotids at the same time. Compression had a good effect on the left, but none on the right side.

728. ROCKWELL. **A case of exophthalmic goitre; recovery under treatment by electricity.** *N. Y. Med. Journ.*, June, 1881. Rockwell has treated ten cases, and has noticed improvement in six, the last of which he records at length. He places the cathode over the cilio-spinal centre, or over the seventh cervical vertebra, the anode on the auriculo-maxillary fossa, and strokes with the latter pole, along the inner edge of the sterno-cleido-mastoid to its upper end. BURNETT.

729. MARTIN, G. Pulsating exophthalmus, treated by electropuncture. Paris, 1881.

730. ABADIE. On certain forms of goitre with exophthalmus. *L'Union*, No. 157.

731. GAUCHER. On goitre with exophthalmus. *Gaz. des Hôp.*, No. 133.

732. ADAIR. Cases of goitre with exophthalmus. *Phil. Med. and Surg. Rep.*, vol. xliv, 2, p. 89.

733. TAPRET. On exophthalmus with goitre. *Arch. Génér.*, vol. vi, p. 73.

734. WOOD. Exophthalmus with goitre. *Mich. Med. News*, vol. 4. March 5th.

735. STARCKE. Report of a case of morbus Basedowii. *Berl. klin. Wochenschr.*, No. 3, 1881.

736. DESNOS. The treatment of exophthalmic goitre by subcutaneous injections of duboisine. *Bull. Général de Thérap.*, 1881, No. 2. Desnos found an improvement in the symptoms of morbus Basedowii, after injections of duboisine, dose 0.005—0.0001 gram. (*i. e.* $\frac{1}{100}$–$\frac{1}{1000}$ grain.)

737. DUJARDIN-BEAUMETZ. On duboisia in the treatment of exophthalmic goitre. *Dublin Journ. of Med. Scienc.*, 1881, p. 81.

738. MARKLEIN. Report of a case of exophthalmic goitre. *France Méd.*

739. NOYES. (*Rep. Amer. Ophth. Soc.*, 1881.) Reports a case of pulsating exophthalmus in a young girl, caused by a fall.

740. HIGGENS, C. **Vascular protrusion of the eyeball; ligature of the common carotid.** *Trans. Med. and Chir. Soc.*, London, 1881, p. 247.

A woman, 42, with ptosis of left eye from pulsating tumor in orbit, increased by stooping; systolic bruit all over the head; pulsation and bruit stopped by compression of carotid. V=$\frac{1}{6}$; no papillitis, but venous congestion of retina. Symptoms began with deafness and noises in ear six months; then failure of V, and gradual protrusion, at first only when stooping. No history of injury. After two weeks of rest in bed, etc., symptoms worse, and common carotid ligated, April, 1880. Complete cure, permanent to date of printing, August, 1881, sixteen months. Two days after operation right hemiplegia began, lasting with frequent variations for about three weeks, and then completely disappearing. Reference to recent American cases, by Morton, 1876, and Frothingham, 1877. E. NETTLESHIP.

VI.—CONJUNCTIVA, CORNEA, SCLERA, AND ANTERIOR CHAMBER.

741. F. VON ARLT. A clinical description of the **diseases of the eye**. First part, conjunctiva, cornea, sclera, iris, and ciliary body. Wien, 1881. W. Braumüller. This monograph is an excellent guide to practitioners of medicine in studying the ordinary eye diseases, dwelling particularly upon the connection of their etiology and pathology, upon which the diagnosis, prognosis, and treatment are based; it is also of importance to sanitary and legal authorities. With these considerations in mind Arlt gives a well-defined description

of the diseases of the conjunctiva, the cornea, the sclera, iris, and ciliary body; and also their therapeutics.

742. GRÆFE, A. On the **caustic and antiseptic treatment of diseases of the conjunctiva,** with special attention to blennorrhœa neonatorum. R. Volksmann's Sammlung klinischer Vorträge, No. 192, 1881. Græfe discusses the principles of caustic and antiseptic treatment of the above diseases, and strives to give the conditions under which one should be used in preference to the other, and also those in which they should both be employed at the same time. According to G. the antiseptic treatment should be followed where *prophylaxis is of importance*, also *in the beginning of contagious diseases* and in all cases where the inflammation does not tend toward a simple blennorrhœa, but more toward a *croupous or diphtheritic* character. The caustic depletive treatment is best employed where the use of antiseptics could not prevent the development of great blennorrhœic swelling, or in the later stages of diseases of a croupous or diphtheritic nature. He calls special attention to these rules in the treatment of blennorrhœa neonatorum.

743. SEELEY. The non-astringent and caustic treatment of conjunctival inflammation. *St. Louis Med. & Surg. Jour.*, vol. xl, No. 1, 1881.

744. GALEZOWSKI. The means of diminishing the dangers of ophthalmia neonatorum. *Ann. d' Hygiène publique*, No. 28, 1881.

745. HIRSCHBERG and KRAUSE. On the **pathology of contagious eye diseases.** *Centralbl. f. practk. A.*, 1881, p. 270. H. and K. publish the results of their investigations of the secretions from the eye, viz.: the secretions in gonorrhoic and diphtheritic ophthalmia, the pus from ophthalmia neonatorum, from acute catarrh, croupous, phlyctænular, and simple catarrh of the conjunctiva, from conj. granulosa, from the small abscesses originating in the glands of the lids; the pathological secretions from the lachrymal canals, abscess of the cornea with hypopyon, and panophthalmitis after cataract extraction.

746. HAAB. The **micrococcus of blennorhœa** neonatorum. Contribution to ophthalmology on the occasion of the jubilee of Prof. Horner, p. 159. Wiesbaden, 1881. Haab examined 11 cases of blenn. neonatorum, 2 cases of gonorrhœal ophthalmia, and 5 cases of gonorrhœa of the urethra according to Koch's method. The cocci were identical in all. Their number was more or less proportionate to the severity of the disease. They could be found as long as there is secretion. The blenn. neonat. resulted from gonorrhœa in the father and mother. In the first part of the disease disinfection is to be employed; in the later stages nitrate of silver. Dropping in a 2-per cent. solution of resorcin.

747. BURNHAM. **Carbol. acid in gonorrh. ophoh.; 3 severe cases treated by frequent and free use of carbolic acid lotion** (1 in 20) applied to everted eyelids, the patient also using it day and night. It gives the patient little discomfort, is markedly astringent as well as antiseptic, and appears to act most beneficially on the cornea, especially in those cases where it threatens to perforate. *R. Lond. Ophth Hosp. Rep.*, vol. x, June 2, 1881.

FITZGERALD.

748. FUCHS. On the treatment of **gonorrhœal conjunctivitis.** *Centralbl. f. practk. A.*, 1881, p. 198. The treatment of this disease is to be

directed to the reduction of the pressure on the eyeball, diminution of the secretion, and the removal of secretion already formed. The first one of these precautions deserves the greatest attention, because it is from it that the cornea runs the greatest danger of suppuration. The pressure is caused by the chemosis of the conjunctiva and the swollen lids, whereby the vessels which supply the margins of the corner are compressed, causing an insufficient circulation. In order to do away with this factor Critchet proposes to divide the upper lid up to the orbit in severe cases, evert the flap, and fix it to the skin above. The cornea does not suppurate when this is done; the lid can be afterward stretched into its proper place, showing but a very slight defect. Fuchs modifies this operation, and divides the outer commissure to such an extent as to relieve also the symptoms of presssure. He puts a suture through the under lid and attaches it on the check, ectropionizing it entirely. He detached it at the end of five days and the healing was good. The advantage lies in a diminution of pressure from the lids, by the complete separation of the softer parts as well as the orbicularis, and the removal of the under lid, a diminished secretion, and extensive bleeding.

749. SPENCER, WATSON W. Acute ophthalmia of both eyes. *Trans. of the Clin. Soc.*, vol. xii, p. 43.

750. BONAGENTE, ROMOLO. Contributions to the study of conjunctivitis. *Giornale internaz. di Science Mediche*, vol. iii, Napoli. B. recommends the continued application of heat in diphtheritic conj., and the cleansing of the conjunctiva with a 3-per-cent. solution of chloral. DANTONE.

751. ADAMS, T. E. Some cases of **diphtheretic conjunctivitis**. *Ophth. Hosp. Rep.*, vol. x, 2, p. 211. During the last few years A. has observed a number of cases of membranous conjunctivitis in Moorfield's Hospital. The usual treatment is to wash the eye frequently with a solution of quinine. It answered in all milder cases, but he lost two severer ones. FITZGERALD.

752. BOCKMAN. **Trachoma.** *Norske Mag.*, vol. ii, 3, p. 209. During a visit in Northern Norway, B. observed that trachoma, although frequent in other parts of the country, was much more so among the Finns, who are very dirty, and live in houses always full of smoke. BULL and SCHIÖTZ.

753. PECK. Inoculation of both eyes for complete pannus, with gonorrhœal pus. *N. Y. Med. Rec.*, July 2. A young man, 21 years of age, was suffering from such a trachomatous pannus that he was just able to find his way. He was inoculated several times with gonorrhœic pus. His vision improved so that he could count figures at 9′ with his right eye, and at 1½′ with his left.

BURNETT.

754. CRITCHETT, G. Peritomy. *Trans. Ophth. Soc., United Kingdom*, vol. i, 9, 1881. C.'s object is to draw attention again to the treatment of trachomatous pannus, thinking that it has fallen somewhat into undeserved disuse. He thinks that peritomy in curing the corneal vascularity acts directly on the lids by removing a source of mechanical and nervous irritation. He finds that the granulations on the lids gradually wither without further treatment when peritomy is performed. A complete zone of conjunctival and subconjunctival tissue, 2½ lines (5 *mm.*), must be removed quite up to the edge of the cornea. The firm

white line of scar which is necessary for final success takes several months to form, the symptoms being even worse for a short time after the operation.

E. NETTLESHIP.

755. BONNEVILLE. On the treatment of trachoma and its consequences. *Thèse de Paris.*

756. CUIGNET. On simple chronic conjunctivitis. *Rec. d'Ophth.*, vol. iii, No. 9, 1881.

757. MORANO. Pathogenesis of granular conjunctivitis. *Giorn. delle Malatt. degli Occhi*, vol. iv, Gennaio, 1881.

758. LORING. Conjunctivitis from impure dust from the streets. *N. Y. Med. Rec.*, April 9, 1881. L. describes a disease of the conjunctiva which he has treated in New York. It consists of a hyperæmia of the conjunctiva, and is distinguished by its obstinacy. L. attributes it to the dust from the dirty streets. He treats it with weak solutions of silver. BURNETT.

759. KRAMNICK. On the causes of conjunctivitis among soldiers. *Wratsch.* No. 10.

760. BEAUVAIS. On the accidents caused by the administration of eye waters.

761. GALEZOWSKI. Oleum cadinum an excellent antiseptic in ocular disease. *Rec. d'Ophth.*, May, 1881. G. uses oleum cadinum (2 to 10 vaseline) with good results in all cases of purulent eye disease.

762. DOR. Syphilitic papules of the bulbar and palpebral conjunctiva. 4e Rapport de la clinique, Lyon, 1881.

763. KUBLI. The clinical significance of so-called **amyloid tumors of the conjunctiva.** *A. f. A.*, vol. x, p. 430. Amyloid tumors of the conjunctiva are *sui generis*. They are not the result of trachoma but sometimes occur with it, but accidentally. (Will appear in the next issue of these ARCHIVES.)

764. WALB. *Klin. Monatsbl. f. Augenheilk.*, vol. xix, p. 331. W. describes a spontaneous abscess of the conjunctiva bulbi.

765. HALTENHOFF. Melanotic sarcoma of the conjunctiva. *Rev. Méd. de a Suisse romande.*, vol. i, 3, p. 168.

766. MEYER. Epithelioma of the eyeball. *Gaz. des Hôp.*, No. 32.

767. CEPPI. Primary sarcoma of the conjunctiva. *Progrès Méd.*, vol. ix, No. 22, p. 423.

768. CHISOLM. Round-celled sarcoma growing from the conjunctiva of a little girl five years of age; a rare pathological development. *Virg. Med. Monthly*, May, 1881.

769. WEST. Epithelioma of the conjunctiva bulbi. *Bost. Med. and Surg. Journ.*, July 7, 1881.

770. MANDELSTAMM. Case of combustion with lead; termination good. *Klin. Monatsbl. f. Augenheilk.*, vol. xix, p. 283.

771. SNELL, S. **Nyctalopia with peculiar appearances of the conjunctiva.** *Trans. Ophth. Soc.*, vol. i, p. 207, 1881. The well-known functional night-blindness, often with dry patches on the ocular conjunctiva, occurs sporadically in children in and near Sheffield every spring. S. here records 10

cases and has seen others. The affection sometimes recurs in the same child in successive springs. The conjunctival patches were always present, and disappeared when the night-blindness ceased. No cause was found, and the children were not underfed. Cod-liver oil rapidly cures all the symptoms. The conjunctival patches were examined microscopically. E. NETTLESHIP.

772. GILLES DE GRANDMONT. Phthisis of the cornea and its treatment. *Gaz. d'Ophth.*, May, 1881.

773. BURNHAM. **Corneal infiltration with hypopyon.** *Roy. London Ophth. Hosp. Rep.*, vol. x, 2, 1881. Three modes of treatment were adopted in these cases: 1. Eserine (grs. ij to ℥ j) instilled four or five times daily, frequent bathing with decoction of poppies, leeches to the temple if there was much pain, and two grains of quinine three times daily. 2. Sæmisch's operation added to above. 3. Atropine drops three times daily, frequent bathing with belladonna fomentations, and quinine internally. The second method, combined with eserine, in B.'s opinion, gave the most satisfactory results. When the corneal infiltration and hypopyon were not great, the first mode of treatment was sufficient. In the third method the progress toward recovery was slower. Eserine appeared specially adapted to those cases where there was little, if any, conjunctival injection. B. asks the question whether the beneficial action of eserine may not be partly due to its powerful effect on the accommodation of the eye, calling it into increased activity, and thus bringing about an unusually large vascular supply to parts in close vicinity to the cornea. As a result of its use he speaks of a brighter corneal lustre, and also at times of the presence on the cornea of vessels so minute that they can only be seen by oblique illumination and the use of a second lens as a magnifier.

When there is much photophobia and conjunctival injection atropine often acts better, and also where iritis is present. In a few cases of corneal infiltration with some conjunctivitis the solution of carbolic acid (1 in 20) was used with good effect.

774. GOSSELIN. On chronic keratitis and iritis. *Rev. méd. franç. et étrang.*, 1881, No. 5.

775. BINAC. Contribution to the study of cachectic keratitis. *Thèse de Paris*, 1881.

776. PECHDO. Progressive ulcer of the cornea, and its treatment. *France Méd.*, Nos. 14 and 16, Feb., 1881.

777. WAHLFORS. Corneal ulcer. *Finska lakaresällsk handl.*, vol. xxii, 4, p. 294.

778. SIMI. A case of onyx of the cornea. *Boll. d'Ocul.*, vol. iii, No. 8, April, 1881.

779. CASTALDI. Contribution to the study of the genesis of corneal ulcer. Napoli, 1881.

780. SEBADINI. Serpent ulcer of the cornea, and its treatment by antisepsis. *Siècle Méd. du* 30 Mai, 1881.

781. DANESI. Contribution to the treatment of serpent ulcer. *Boll. a'Ocul.*, vol. iii, No. 10.

782. DEL TORO. Cauterization in diseases of the cornea. *Chronic. Oftal.* Cadiz, vol. x, p. 105.

783. RENTON. Treatment of sloughy ulceration of the cornea. *Edin. Med. Journ.*, vol. cccxv, p. 223, Sept., 1881.

784. SIMI. Actual cautery of the cornea. *Boll. d Ocul.*, vol. iii, No. 11, Luiglio, 1881. An ulcer of the cornea of long standing (one month) healed rapidly after cautery with a white hot strabismus hook. DANTONE.

785. HAENSELL, P. Examination of the condition of the substance of the cornea in traumatic keratitis. *Arch. f. Ophthal.*, vol. xxvii, 2, p. 55.

786. BEAVER. On wounds of the cornea, with remarks on the use of sulphate of atropine and duboisine. *Phil. Med. and Surg. Rep.*, vol. xliv, 6, p. 147, Feb.

787. DÉSALLÉES. On the best mode of treatment of injuries of the cornea from ears of grain. *Rec. d' Ophthalm.*, 1881, No. 7.

788. JANY. Keratitis neuroparalytica. *Centralblatt f. pract. Augenheilk.*, 1881, p. 193. In a healthy man an affection of the cornea happened after an attack of apoplexy, its probable origin being neuroparalytic. Improvement after the use of an induced current of electricity.

789. RAMPOLDI. Della keratite dei mietitori et dei suoi rapporti colla dacryocistite. *Annal. di Ottalm.*, vol. x, fasc. 4 and 5, 1881. Among 25 cases of hypopyon keratitis in maize harvesters during the summer months, 15 had dacryocystitis. The latter appeared either before or during the attack of keratitis. DANTONE.

790. SIMI. Dacryocystitis with hypopyon. *Boll. d'Ocul.*, Firenze, vol. iii, 2.

791. HOCQUARD. **Epithelial patches on the cornea.** *Arch. d' Ophth.*, vol. i, p. 481. H. describes an elevated white plaque, with irregular but well defined edges, on a corneal opacity near the line of the closure of the lids. There was but little irritation present. It looked like flour, or a thin layer of white soapsuds Particles could be scraped off, and were found to consist of epithelial cells and fat-globules. It consisted in a hyperplasia and fatty degeneration of the corneal epithelium. (Ribbon-shaped keratitis.—K.)
V. MITTELSTÄDT.

792. SCHIESS-GEMUSEUS. **Persistent formation of blisters on the cornea after inflammation of the other eye.** *Klin. Monatsbl. f. Augenheilk.*, vol. xix. p. 386. Prolapse of iris occurred after cataract extraction in the right eye, producing inflammation, and causing the appearance of silvery blisters in the epithelium of the left. They had transparent contents. The left eye showed the remains of a traumatic cataract. The process disappeared after the application of a compressive bandage.

793. ALEXANDER. **Keratitis bullosa.** *Deutsche med. Wochenschr.*, 1881, No. 41. A. describes a case of keratitis bullosa in an eye, which presented symptoms of chronic glaucoma. The cornea showed parenchymatous inflammation with striped opacities.

794. ARMAIGNAC. Contributions to the study of punctate keratitis. *Rev. d'Oculist. du Sud-ouest*, 1881, No. 4, p. 73.

795. BERGMEISTER, I. **Buphthalmus congenitus.** *Mittheil. des Wiener med. Doctoren-coll.*, vol. vii, No. 15. B. describes two cases of congenital buphthalmus. One of them seemed to show that congenital buphthalmus is caused by an inflammatory process in the shape of a choroiditis and serous cyclitis.

796. GALEZOWSKI. The **treatment of interstitial keratitis and sclero-keratitis by iridectomy.** *Rec. d' Ophth.*, July, 1881. He thinks that iridectomy is the most rapid and safest means of treatment in those cases of interstitial keratitis, where the disease takes an irregular course, and induces complications of the cornea, iris, or sclera. The operation must be made as soon as possible after we are satisfied that there is no improvement from external and internal treatment. It also gives satisfactory results in sclero-keratitis and in scleritis.

797. RAMPOLDI. A **singular pathological phenomenon of circulation in the cornea.** *Ann. d'Ottalm.*, vol. x, 1. R. observed a young girl, in whom the lower part of the cornea of the left eye became opaque when she held down her head for fifteen minutes. When she held it up again the opacity disappeared in about six minutes. This remarkable phenomenon was observed for about one month, but disappeared on treatment with tonics. The first examination showed a slight protrusion of the eye, but this disappeared also under the treatment. DANTONE.

798. NUEL. **Dilatation of the pericorneal lymphatics and vascular papillæ on the cornea.** *Arch. d' Ophth.*, vol. i, p. 449. He examined the cornea and surrounding conjunctiva of the eye. It had been enucleated on account of glioma. Before the perforation of the glioma the eye showed glaucomatous symptoms, and also great swelling of circumcorneal conjunctiva. The microscope showed the latter to have been caused by extensive dilatation of the circumcorneal lymph spaces, containing a serous fluid. Nothing else was found in them. The cornea was much thickened by a serous infiltration of its tissue. There was a vascularization of its deeper layers, and many vascular papillæ were found beneath the epithelium. These pericorneal lymphatics play a certain part in the nourishment of the cornea, and in the diseases which occur in this locality, as in acute glaucoma. The chemosis and clouding of the cornea indicated that there had been a choking up of the canals. v. MITTELSTÄDT.

799. MINOR, JAMES J. Anæsthesia of the cornea, and its significance in certain forms of eye disease. *Amer. Jour. Med. Sc.*, July, 1881.

800. DAMALIX. On **the treatment of chronic diseases of the cornea by massage.** *Arch. d' Ophth.*, Sept.–Oct., 1881. He reports seven cases in which massage had been done according to Pagenstecher's method, and arrives at the conclusions: that massage is easy to perform, works rapidly, and is painless. In the treatment of chronic diseases of the cornea in young people, it serves a good purpose if we use yellow ointment and general treatment at the same time. MARCKWORT.

801. MORANO. Contribution to the study of staphylomata. *Giorn. delle mal. degli occhi*, vol. iv, Gennaio, 1881. He recommends a long treatment with eserine, before abscission of staphylomata. He thinks it has a great influence on the formation of a smooth scar. DANTONE.

802. Dor. The treatment of keratoconus by the application of cylindrical glasses. *Le Lyon Méd.*, Feb. 20, 1881.

803. Benaky. Keratoconus and its treatment by cylindrical glasses. *Thèse de Lyon*, 1881.

804. v. Reuss. Keratitis. *Eulenberg's Real-Encyclop.*, vol. vii, p. 343.

805. v. Reuss. Keratocele. Same, page 356.

806. v. Reuss. Keratomalacia. Same, page 358.

807. v. Reuss. Keratoplasty. Same, page 358.

808. Oppenheimer. Deep lacerated wound of the eyeball. Scleral sutures. *N. Y. Med. Rec.*, vol. xix, 1.

809. Fridenberg. Penetrating wound of the sclera. Suture. Recovery with nearly perfect vision. *N. Y. Med. Rec.*, Nov. 12, 1881. The wound was closed by conjunctival sutures. The case was treated antiseptically. At the discussion of the paper at the Society of German Physicians, Dr. Welt mentioned a similar case, where an equally good result was obtained, yet no special antiseptic means were employed. [Many such cases are on record.—K.]

810. Pardo, E. A large scrofulous ulcer of the sclera in a child seven years of age. *Riv. Clin.*, 2 s., vol. x, 11, p. 338.

811. Privé. Rheumatic scleritis. *Thèse de Paris*, 1881.

812. Story. Staphyloma of the sclera. *Dublin Journ.*, vol. lxxi, p. 180, February, 1881.

813. Rothholz. On the etiology of posterior staphyloma of the sclera. *Arch. f. Ophth.*, vol. xxvii, 2, p. 25. He thinks that the funiculus scleroticæ of Hannover plays a great part in the formation of staphyloma posticum.

814. Lippincott. **Foreign bodies in the anterior chamber.** *Pittsburgh Med. Journ.*, August, 1881. Case I.—A fragment of steel, one third of an inch in length, was attached by one end to Descemet's membrane, while the other projected into the anterior chamber. Unsuccessful attempts at its removal were made with Grüning's magnet. It was removed by means of a pair of fine forceps. Case II.—A piece of copper, one quarter inch in length, had one end embedded in the lens, the other free in the anterior chamber. This was likewise removed by means of fine forceps, through an upward linear incision. Burnett.

C.—IRIS AND UVEAL TRACT, GLAUCOMA, SYMPATHETIC OPHTHALMIA, REFRACTIVE MEDIA (LENS AND VITREOUS BODY), RETINAL AND FUNCTIONAL DISTURBANCES, OPTIC NERVE, INJURIES, FOREIGN BODIES (PARASITES), OCULAR AFFECTIONS IN CONSTITUTIONAL DISEASES.

Compiled by Dr. A. Nieden.

Translated by Dr. F. D'Oench, New York.

I.—IRIS AND UVEAL TRACT.

815. Adams. On some **unusual forms of iritis.** *Roy. Lond. Oph. Hosp.*

Rep., vol. 10, pt. ii, p. 214, June, 1881. Three years ago A. reported to the Hunterian Society three cases of iritis occurring in young girls about the age of puberty, in whom he was utterly unable to find any dyscrasia to account for the occurrence. Attack characterized by an abundant effusion of lymph, producing firm posterior synechiæ, total absence of pain or photophobia, great injection, not limited to or visibly intensified at the ciliary region; disease subsides apparently of its own accord, leaving the eye scarcely at all impaired. All the cases were unilateral and on the left side. Recently met a precisely similar case where there were decayed teeth in upper jaw on same side, but in the other the teeth were good.

Another case A. reports is that of a gentleman, æt. 29, free from gout, rheumatism, or syphilis, but living in a marshy country, and subject to intermittent fever. Left eye, marked circumcorneal injection; pupil, clear and active; V — $\frac{20}{30}$. Spots of uveal pigment on right capsule. In a few days, under atropine, a few posterior synechiæ were seen in left eye. Ordered atropine and iodide of potassium. A week later was worse. Suffered great pain, which was worse at two o'clock in morning. Periodicity so marked that miasmatic influence suggested itself to A., who prescribed quinine, which was followed by immediate relief. Had slight relapses since (now four years), which were always cut short by quinine. FITZGERALD.

816. ARLT. Diseases of the **iris and the uveal tract** in his clinical descriptions of the diseases of the eye. Vienna, 1881, vol. iv. . Arlt pleads for a classification of the various forms of iritis according to their etiology and not the nature of the exudations produced. The granuloma of the iris he assigns to the tuberculous form. In sympathetic ophthalmia the author is inclined to accept transmission through the ciliary nerves.

817. ARMAIGNAC. Aniridie congénitale presque complète. *Rev. cliniq. d'oculist.*, 1881, No. 10, p. 219.

818. BROWN. Case of congenital aniridia with cataract. *The American Specialist*, Nov. 1, 1881. There was also nystagmus. Cataract developed at the age of 26. Four years later extraction, the result of which was: Left, V — $\frac{15}{100}$; and Right, good perception of light and ability to recognize the outlines of objects. SWAN BURNETT.

819. DEHENNE. Ossification de la choroide. *Soc. de méd. pratique*, April 17, 1881.

820. FUCHS. The **sarcoma of the uveal tract.** W. Braumüller, Vienna, 1882, 295 pages and 6 lithog. plates. Compilation of 16 cases of sarcoma of the iris, 22 of the ciliary body, and 221 of the choroid: among these, 22 of his own observation: 30 were leuco- and 229 melano-sarcomata; the former were mainly confined to the anterior and middle parts of the globe, the latter to the posterior part. For the interesting details in regard to the average time necessary for the development, relapses and metastases, the age of the patients, location, pathogenesis, etiology, and prognosis, see the work itself.

821. HIRSCHBERG. **Coloboma and microphthalmus.** *C. f. A.*, vol. v, p. 265. Microscopic description of an amaurotic globe. The staphylomatous bulging of the lower part of the sclera, the partial atrophy of the choroid at

this spot, and the total, funnel-shaped detachment of the retina, with a partial defect in the lower wall corresponding to the coloboma, are of especial interest. Bone had formed in a cyclitic exudation.

822. HORTSMANN. **Recurrent iritis.** *Transact. of the Heidelberg Oph. Congr.*, Sept., 1881. Hortsmann reports 49 cases in 34 individuals. In 38 posterior synechiæ remained behind. Sometimes these are the cause of a relapse; more frequently they are due to syphilis, gonorrhœa, and scrofulosis, so that general treatment, combined with the use of salicylate of soda, often produces excellent results.

823. HULKE, J. W., and Dr. GOWERS. **Ophthalmoplegia interna.** *Trans. Ophth. Soc. Un. Kingd.*, i, 155, 1881.

H. believes it probable that the triple group of symptoms—paralysis of ciliary muscle, of sphincter, and of dilator pupillæ—named by Hutchinson *ophthalmoplegia interna*, is caused by disease of intra-ocular ganglia, not to disease of lenticular ganglion. After excision of the lenticular ganglion, the pupil, though of medium size and motionless to light, dilated under electrical stimulation of the cervical sympathetic and to atropine (Adamük, Hensen, and Völckers), and hence must receive motor fibres independently of the ganglion.

Mr. Hutchinson replied that this condition was just what he had described, so far as atropine and light were concerned, but that galvanism had not been tried in his cases. He thought it probable that both lenticular and intra-ocular ganglia were sometimes diseased; he was, however, in some doubt whether the disease might not after all be central. E. NETTLESHIP.

824. JANY. A case of **sarcoma of the uvea.** Paper read at the meeting of physicians of the Kalisch. Gubern., Nov. 17, 1880. *Medycyne*, T. ix, July, 1881. In a woman 24 years old, and in the 6th month of pregnancy, an alveolar round-cell sarcoma of the ciliary body had penetrated the iris and sclera, had involved the choroid, and produced a partial detachment of the retina.

825. KIPP. **Sarcoma of the choroid.** *Rep. of the Amer. Ophth. Soc.*, July, 1881. Two cases. The first was that of a healthy woman, 44 years old, who three to four months ago noticed that her sight began to fail. The neoplasm occupied the temporal half of the posterior part of the globe, and had not caused an increase of tension. The same condition prevailed in the second case, a woman 46 years old, who suffered fom a melanosarcoma.

SW. BURNETT.

826. MANDELSTAMM. Case of **sarcoma of the choroid.** *St. Petersb. Med. Wochenschr.*, 1881, No. 17. A child. Half a year after enucleation, metastases in the liver; about six months later, death.

827. MASSE. 1. Des tumeurs de l' iris. 2. De la formation des kystes et des tumeurs perlées de l' iris. Pag. 21, resp. 13. Bordeaux, 1881. Bellier.

828. MICHEL. **Iris and iritis.** *G. A. f. Ophth.*, vol. xxvii, 2, pp. 171–282; *cfr.*, *Heidelb. Ophth. Vers.*, Sept., 1881; *Sitzungsber.* A pathological and clinical investigation upon which Michel proposes to base a new classification; not one upon the manner in which the pathological process manifests itself, or upon its intensity, or upon certain stages of it; but upon the affection: 1. Of the vascular system. 2. Of the lymphoid apparatus. 3. Inflammations. 4. Retrograde changes. 5. Neoplasms. 6. Changes of position.

7. Functional disturbances. 8. Foreign bodies and injuries. 9. Congenital anomalies. For details see the article itself.

829. NETTLESHIP, E., and FOX, L. WEBSTER. **Multiple growths on iris and ciliary body after iritis.** *Trans. Oph. Soc. United Kingdom*, i, 19, 1881. (With plate.)

A delicate, undergrown girl, 13, had double iritis with keratitis punctata, and a large nodule like a gumma on one iris; disease of vitreous and diffuse retinitis in both; no choroiditis. No evidence of syphilis, acquired or inherited, nor of any constitutional disease; blood normal. Under mercurialization the nodule enlarged, and new ones appeared; the disease was thought probably tubercular, and an unfavorable prognosis given. Two months after admission part of the largest growth was excised; no severe reaction; wound became filled by the growth. Similar growths had now begun in the other (right) eye. At end of three months, the left eye seemed hopeless, and to be keeping up irritation in the right, and was excised. The growths continued to increase in the second (right) eye for another six months, when they rather rapidly diminished and disappeared, with great improvement of V. Neither mercury nor iodide of potassium after the first two months. The growths in the enucleated eye showed the typical structure of gummata. E. NETTLESHIP.

830. NITOT. Des **gommes syphilitiques de l'iris et du corps ciliaire.** P. 144. Paris, 1881. Baillière.

831. SCHIESS-GEMUSEUS. Melanosarcoma chorioideæ. *Jahresb. der Augenheilanst. z. Basel f.* 1880. A small tumor had perforated the globe, thus becoming an extra-ocular one, but showed no growth within the eye.

832. SNELL, S. Case **of cyst (cholesteatomatous) of the iris.** (*Roy. Lon. Oph. Hosp. Rep.*, vol. x, pt. 2, p. 208, June, 1881.) The result of punctured wound caused by a chip of metal. Cyst about the size of a pea, but more oval in form. Lens opaque. Cyst removed with the piece of iris to which it was attached, by simultaneously introducing two broad needles, bent at an angle, on each side of the tumor. When these were withdrawn, a Weber's canaliculus knife was passed into the opening, gently insinuated between the cyst and the cornea, and brought out again through the other incision. The intervening bridge of cornea was then cut across by it, and the piece of iris with the cyst was excised. The latter was removed entire. Microscopical examination showed contents consisted of a number of very large, clear, closely packed cells like fat-cells, in which no nucleus was discernible; great number of cholesterine crystals; large quantity of fatty matter, pigment cells, and granules; sparsely scattered tesselated epithelium, and homogeneous, purely granular material. The delicate anterior wall consisted of homogeneous material, pervaded by very fine, moderately well-defined fibres. The membranous-looking portion attached to the iris was associated with fatty materials and *débris*, and the fibres were large and more sharply defined than those of the anterior wall.

S. remarks that the great majority of these cases are associated with injury, and he lays stress on the importance of removal of the entire cyst, if practicable. He advocates the mode of operating adopted in this case for growths in the anterior chamber encroaching on the inner corneal surface. FITZGERALD.

833. TARTUFERI. Un caso di granuloma dell' iride senza cellule giganti. *Ann. di Ottal.*, vol. x, p. 521.

834. VELARDI, E. Studio sulla coroidite sifilitica. *Giorn. internaz. delle scienz. med.*, 1881, vol. iii. Velardi considers disseminate choroiditis to be the result of a proliferation of cells similar to that of the gumma of the iris. The diagnosis of syphilis, however, cannot be made from this form of inflammation of the choroid, unless there are other symptoms of syphilis besides.

835. WEBSTER. Two cases of bony formation in the eye. *Med. Gazette*, April 2, 1882. In one an exudation into the ciliary body, in the other an ossification of the choroid had taken place. In one case the lens had become calcified. SWAN BURNETT.

836. WIDDER. **Syphilitic iritis and its relations to the syphilitic diathesis.** *G. A. f. Ophth.*, vol. xxvii, 2, pp. 99–170. The author begins with the history and course of syphilis in general. The specific affections of the eye are local manifestations of the constitutional syphilis; iritis is very common in the second stage, occurs in the early phase of syphilis, and is a product of the condylomatous stage. Gummous iritis occurs in 19 per cent. of all cases of syphilis, and mostly at the same time as other secondary symptoms, belongs also to the condylomatous stage, in fact is nothing more than an aggravation of ordinary specific iritis. The nodular product is not a gumma, but a papule. The true gumma of the iris appears only in the tertiary stage. A table of 61 cases is added.

837. WORDSWORTH, J. C. **Peculiar granular bodies on iris after discission.** *Trans. Ophth. Society of United Kingdom*, i, 23, 1881.

A boy, æt. 7, underwent discission for lamellar cataracts, and three months later for opaque membrane. Three and a half years later a large number of "small globular, pearl-like bodies" were attached by narrow pedicles to the iris or false membrane, and others were loose in the anterior chamber.

NETTLESHIP.

II.—GLAUCOMA.

838. ANGELUCCI. The **structure of Descemet's membrane and the development of Schlemm's and Fontana's canals in connection with the etiology of glaucoma.** *Transact. of the Med. Internat. Congr.*. London, Aug., 1881. Descemet's membrane is a product of the endothelium of the cornea, and does not participate in the formation of Fontana's canal, which is formed by aqueous humor penetrating between the component parts of the iris, choroid, and ciliary body. No lymph filters through the canal, so that its obstruction has no essential influence on the development of glaucoma. The disease is due to a sclerosis of all the membranes of the eye, and especially of the walls of the blood-vessels. The veins are dilated and in a state of chronic inflammation. Thus the lymphatic spaces are compressed, preventing the efflux of the aqueous humor.

839. BRAILEY, W. A. **On the relation of tumors of the eye to intra-ocular tension.** (*Roy. Lond. Ophth. Hosp. Rep.*, vol. x, pt. 2, p. 275. June, 1881.) From the evidence furnished in the preceding report B. deduces the following:

"1. That with intra-ocular tumors a stage of very slightly diminished tension precedes the glaucoma; this last being ultimately, in its turn, followed by a very considerable softening of the eye.

"2. That in cases of tumor implicating solely the exterior of the eye, or even the optic-nerve sheath alone, glaucoma may be developed as a consequence, though there is no preliminary stage of slightly diminished tension.

"3. That the pathological changes accompanying increased tension, whether from intra- or extra-ocular tumors, are those typical of true primary glaucoma.

"4. That in every case of tumor, whether intra-ocular of the retina or choroid, or extra-ocular of the conjunctiva, subconjunctival tissue, optic nerve, or orbital walls, with normal or even slightly diminished tension, these changes can be observed in process of development.

"5. That the course of the pathological changes in a glaucoma may be inferred by a comparison of those observed in cases of tumors in the different stages of tension above referred to."

In connection with the remarks which B. appends to the several propositions he says certain questions suggest themselves.

a. How does the pressure of a tumor produce inflammation, especially that of the ciliary body and optic nerve?

He concludes that these inflammatory conditions are not due to commencing tumor extension, but rather to its physical influence.

b. Supposing that a tumor can influence the tissues immediately in relation with it, how is it that the inflammation travels to more distant parts?

Microscopical examinations show clearly that neither the vitreous body nor the retina is the carrier of inflammation, but the fibrous and vascular tissues of the eye.

c. How do the inflammatory and vascular changes stand in relation to the tension?

It is necessary to suppose that a hypersecretion, due to the inflammation of the ciliary body, can produce the tension, though in the earlier stages this may be below the normal.

d. Are there any other physical causes in action to which we are to attribute the increase of tension?

The application of the peripheral part of the iris to the cornea, a strong factor in preventing the escape of fluids from the eye.

e. What is the cause of this advance of the peripheral part of the iris?

In choroidal tumors this may partly be due to the enlargement of the ciliary folds, and then once this occurs it has been made complete and permanent by means of the fluid, whose exit from the eye has been obstructed in its course to Schlemm's canal. FITZGERALD.

840. BRAILEY, W. A. On **the nature and course of the glaucomatous process.** (*Roy. Lond. Ophth. Hosp. Rep.*, vol. x, pt. 2, p. 251, June, 1881.) B. considers that we are now in a position to speak with some precision of this disease. Inflammation of the ciliary body, iris, and optic nerve is always present; it is one of the earliest symptoms of primary glaucoma, being developed previous to the increased tension. Iris periphery is nearly always applied to cornea. Arteries of ciliary body become dilated, ciliary body alters

in shape, and muscle fibres undergo atrophy, with very commonly dense connective-tissue formation between and in the optic nerve. Choroid is compressed and atrophic. Lens has not exceeded normal diameters in any of the specimens examined, but is flattened antero-posteriorly. Posterior chamber of aqueous usually of great depth. Causes of increase in intra-ocular fluid: hypersecretion from ciliary body, obstructed outflow of fluid by change at periphery of iris; later on the ciliary body and iris have become atrophic, and the occlusion of the entrance to Schlemm's canal remains as the sole agent in keeping up the tension. Iridectomy cures by removing periphery of iris, but when this is atrophied and firmly adherent to cornea its removal cannot be effected. Then sclerotomy may cure by making a new access to Schlemm's canal.

FITZGERALD.

841. BRAILEY, W. A. Two cases of **glaucoma of extremely short duration.** *Ophth. Hosp. Rep.*, vol. x, p. 225.

Case I.—A young man, æt. 37, received an injury from a fragment of metal penetrating the cornea and wounding the lens. Three days later applied at the hospital; T was increased, and there was little or no anterior chamber. In three days more there was severe pain with T 3; the eye was then excised, but no foreign body was found. The eye generally was healthy, though the lens was opaque.

Case II.—A man, æt. 44. The sight of left eye failing for a year. Retina detached at lower and outer part; T diminished. Ten days before eye was excised, after a violent attack of pain, found he could not see light. Three days later eye was tender; T normal, but no perception of light; following day great pain with increased tension. Iridectomy performed three days later. Recurrence of great pain and increased T; eye excised. Tumor found springing from lower and outer part of choroid; its cells spindle-shaped, and its vessels numerous and large. Iris and ciliary body at parts removed from the operation considerably inflamed, but not atrophied. Periphery of iris applied to the cornea, and anterior ends of the enlarged ciliary folds are in contact with it in places. Arteries of ciliary body enlarged. Ligamentum pectinatum is inflamed.

FITZGERALD.

842. FUCHS. **Changes in the cornea due to increased intraocular pressure.** These ARCH., vol. x, p. 460; *Ber. d. Heidelb. Ophth. Vers.*, Sept., 1881. Glaucoma gives rise to an œdema of the cornea, which extends into the larger fissures of the superficial lamellæ of the cornea, as well as into the deeper layers of the epithelium. The characteristic punctate appearance of the cornea is due to this dropsical swelling of the epithelium. The anæsthesia arises from the compression and rupture of the nerves of the cornea.

843. INTERIANO. **Du glaucoma hémorrhagique.** *Rec. d'Ophth.*, Aug., 1881. Interiano distinguishes between: (1) Primary hemorrhagic glaucoma; (2) secondary hemorrhagic glaucoma; (3) glaucoma with hemorrhage. Three stages may be observed in the first: (1) That of the hemorrhage; (2) that of the interval; (3) that of the fully developed glaucoma. The presence or lack of a defect in the field of vision is not of so great importance for the differential diagnosis between ordinary and hemorrhagic glaucoma as some authors would assign to it, as the field of vision is also limited in hemorrhagic glaucoma. In secondary

hemorrhagic glaucoma the hemorrhages occur after the development of glaucoma. He favors sclerotomy, and when it proves useless, enucleation.

MARCKWORT.

844. LITTLE, W. S. **Some cases of glaucoma.** Amer. Ophth. Soc. at Newport, 1881. Four cases, all bilateral, and all in patients under 20, 3 of them in one family. The eyes were hyperopic. In one case glaucoma fulminans set in 12 hours after the instillation of atropine, and a few days later the other eye was also attacked. Three of these patients were also troubled with hemorrhoidal veins, which leads the author to assume a connection between these two diseases. SWAN BURNETT.

845. LANDESBERG, M. Case of **acute glaucoma in a child of 8 years cured by sclerotomy**, with an additional account of nine sclerotomies performed on glaucoma in adults. *Med. & Surg. Rep.*, Feb. 26, 1881. Sclerotomy can replace iridectomy in absolute glaucoma, in secondary glaucoma, and in those cases of glaucoma where iridectomy has already been performed but failed. SWAN BURNETT.

846. MARTIN, G. Du traitement préventif du glaucome dans les cas où déjà un œil se trouve atteint de cette maladie. Paris, 1881. Delahaye and Comp.

847. MAUTHNER, L. Glaucoma. J. F. Bergmann, Wiesbaden, 1881, 116 pages. A monograph as thorough, precise, and elegant as the previous discourses on ophthalmological themes; part second will treat of secondary glaucoma and of the theories of the disease.

848. MINOR, JAMES. A review of three anomalous cases of glaucoma. *N. Y. Med. Jour.*, 1881. In the first case in which there was a circumscribed corneal ulcer, glaucoma set in after the instillation of atropine. In the second, the lens had been dislocated into the anterior chamber; the attack yielded to eserine. In the third, a cystoid scar had remained behind after a cataract extraction according to Graefe, in consequence of which the intra-ocular pressure increased; cured by iridectomy.

849. PRIESTLY SMITH. The **pathogenesis of glaucoma.** Report of the Lond. Intern. Med. Congr., Aug. 1881. These ARCHIVES, x, p. 341.

850. QUAGLINO. Casuistica clinica. **Contributio alla storia clinica del glaucoma.** *Ann. d' Ottalm.*, vol. x, Fasc. 1. Quaglino first discusses the occurrence of glaucoma in two widely different conditions of the eye, microphthalmus and buphthalmus, and then relates the clinical history of 4 rare cases: 1. Microphthalmus (about $\frac{2}{3}$ of the normal size) with chronic glaucoma in a young man of 17. Eserine and sclerotomy did not improve the sight, but for the next few months it did not deteriorate. 2. Microphthalmus (about $\frac{1}{2}$ the normal size) with aniridia and absolute glaucoma in the right eye, chronic glaucoma in the left eye of a man 23 years old, who had been amblyopic since birth; in both eyes glaucoma developed about a year ago. Sclerotomy right, iridectomy left, which prevented a further contraction of the field of vision. 3. Synchysis scintillans and chronic glaucoma in both eyes of a man 70 years old. Iridectomy in the right eye cut short the disease. 4. Glaucoma and high degree of myopia in a young student; M = $\frac{1}{4}$. At the same time subacute glaucoma developed. A day after an upward iridectomy had been performed, spontaneous dislocation of both lenses into the anterior chamber. A second

iridectomy downward did not alter the position of the (transparent) lenses and did not entirely dispel the irritation. DANTONE.

851. WEBER, A. The **nature and causes of glaucoma.** Report of the Lond. Intern. Med. Congr., Aug., 1881. These ARCHIVES, x, p. 340.

852. FOX, L. WEBSTER and BRAILEY, W. A. A **case of glaucoma preceded by optic neuritis,** with remarks. *Roy. Lond. Ophth. Hosp. Rep.*, vol. x, pt. 2, p. 205, June, 1881. An intense and rapidly ushered in case of optic neuritis, followed some time later by well-marked glaucoma. This was relieved for a short time by eserine and subsequently by sclerotomy, but the tension again rising to T_3 and the pain being very severe, the eye was enucleated. Microscopical examination showed intense neuritis and thrombus of an anterior ciliary vein. As regards the question, did the disease start as inflammation or as a thrombus? the authors are of opinion that "a neuritis caused an acute inflammation of the walls of the central vessels with a resulting thrombosis of the vein. The inflammation then extended forward, especially along the loose episcleral tissue and its blood-vessels, where it found increased expression in the walls of its numerous veins. Passing inward along the anterior ciliary veins it set up acute inflammation in the fibres of the ciliary muscle." FITZGERALD.

853. WEBSTER, DAVID. A **somewhat remarkable case of glaucoma.** Aphasia. *Arch. of Med*, New York, Aug., 1881. The connection between the cerebral disease (softening) and the glaucoma is not quite clear. As syphilis existed it might be considered the cause of both. The most important point of the clinical history is the fact that prodromal symptoms of glaucoma had been observed in the right eye for years, without any marked effect on the sight or field of vision. The left eye had already become amaurotic through absolute glaucoma. SWAN BURNETT.

III.—SYMPATHETIC OPHTHALMIA.

854. BECKER, O. The **origin of sympathetic ophthalmia.** *Arch. f. Psych.*, vol. xii, 1. The right eye of a man 19 years old was severely injured by a cut with a whip. Three days later panophthalmitis set in, on the eighth day trismus, and on the fourteenth death ensued. In the left eye there was paralysis of the oculomotor nerve except the sphincter; the eye was totally immovable. The ophthalmoscope showed swelling of the disc, enlargement of the veins, and dulness of the retina. The infiltration of the optic nerve of the injured eye ceased this side of the optic foramen, as also that of the sheath from the pia mater. The intracranial part and the chiasma were not inflamed. The left eye showed only cellular infiltration of the optic nerve and its sheaths from the pia and arachnoid. The thickness of the choroid in the nasal half of the sympathetic eye was increased threefold and the infiltration considerable. There was therefore local choroiditis with secondary retinitis, so that the transmission can only be explained as having taken place through the vascular centres.

855. BRAILEY. The pathogenesis of sympathetic ophthalmia. Rep. of the Intern. Med. Congr., London, Aug. 1881. These ARCHIVES, x, p. 336, and *Berlin. klin. Wochenschr.*, No. 40, 1881.

856. CRITCHETT, G. On the **treatment of sympathetic ophthalmia.**

(*Royal London Ophthalmic Hospital Reports*, vol. x, pt. 2, p. 141, June, 1881.) The following points are considered. Nature and extent of injury giving rise to sympathetic ophthalmia. Period at which the disease usually exhibits itself. Structures it involves, and, finally, the best method of treatment. A foreign body in the eye is a frequent factor, and wounds of the ciliary region are most dangerous. Yet injuries and simple incisions of the cornea have produced it. C. ventures to express his individual opinion that though the nature of the injury exerts a powerful influence, yet the extreme rarity with which operations give rise to it proves that a peculiar and exceptional condition of the nervous system is a potent agent in these cases. He has found that the period occupied in the development of the disease is from 12 to 18 months, and that the eye may remain unchanged for an indefinite period. He insists on "a practical point" which is sometimes overlooked, viz., that though the iris, lens, and capsule are converted into a tough, opaque, and inelastic tissue, yet, as a rule, the fundus is but slightly involved.

As regards treatment during the progress of the disease C. has never been able to satisfy his mind that local or constitutional remedies exert a specifically beneficial influence. There should be no operative interference during the progress of the disease, and it is only when it has quite run its course, and all vascularity of the globe, and sensitiveness to light have disappeared, and this condition has existed for some time, that the plan of treatment proposed is to be undertaken.

The method C. advocates consists in introducing two needles into the anterior chamber and tearing an opening through the thickened capsule. This is to be repeated at considerable intervals of time until the lens is absorbed, and a sufficient opening obtained. He records two cases in which this plan of treatment was successfully adopted. FITZGERALD.

857. MACGILLAVRY. **Remarks on the origin of sympathetic ophthalmia.** *Niederlandsch. Tijdschrift voor Geneeskunde*, 1881. In connection with a communication of Becker on "the origin of sympathetic ophthalmia" (*Arch. Psych.*, vol. xii, 1), MacGillavry lays stress upon his view being essentially different from that of Knies. While the latter considers the transmission of an inflammation through the intervaginal space of one optic nerve to the other probable, MacGillavry found, when examining a case of sympathetic ophthalmia, that there was not a trace of inflammation in the optic nerve or its sheaths; masses of leucocytes had here and there obstructed the subdural lymphatic space of the optic nerve. MacGillavry therefore suggested that such obstructions in the lymphatic sheaths of the chiasma might be the cause of sympathetic ophthalmia. C. S.

858. KNIES, M. (Zürich). **Sympathetic ophthalmia.** Contributions to ophthalmology (Horner's jubilee). J. F. Bergmann, Wiesbaden, 1881. A critical investigation, discussing: 1, the nature of the inflammation of one eye; 2, the kind of sympathetic affection of the other eye as plastic uveitis; 3, the time of transmission, at the minimum, 3 weeks. The author accepts transmission along the optic nerve and its sheath from the pia mater by way of the chiasma, even though the nerve no longer transmits light. The therapeutic indications then follow with an abstract of the 16 cases of cures reported.

859. KRAUSE, F. (Hirschberg's clinic). Contributions to the **pathology**

of sympathetic ophthalmia. *A. f. A.*, vol. x, p. 629. In one case there was interstitial neuritis of the ciliary nerves, clearly marked by the collection of round cells in the interstitial tissue. The nerve-fibres were nowhere destroyed, and the writer supposes that through them the inflammation was transmitted to the other eye, while the optic nerve and its sheaths remained normal.

860. MOOREN. The **pathogeny of sympathetic impairment of vision.** *Z. M. f. klin. Augenh.*, vol. xix, p. 313. The author is in favor of transmission through the optic nerve. A simple inflammation of the stump of an optic nerve of an enucleated eye is sufficient to transmit it along the nerve, no matter whether the irritation is due to the operation, an impregnation with septic substances, or to fresh products of disease. Primary cyclitis may give rise to sympathetic neurosis in the other eye, and ciliary neuritis in the orbital branches of the fifth nerve may produce plastic cyclitis in the other eye. The kind of primary affection scarcely ever influences the form of sympathetic ophthalmia. Sympathetic ophthalmia may set in in the other eye a few days after an injury, when it chances to affect an eye prepared, as it were, for it by a previous uveal disease. In five cases, in which there were cerebral sympathetic disturbances, which were more accurately characterized by the statements of the patients, and attributable to a painful stump of the optic nerve, the author assumes vaso-motor disturbances as the cause, and thus refers to the well-known experiments of Rumpf-Mooren of transfert, when one eye is irritated mechanically or chemically.

861. NICOLINI. Di una **enervazione ottico-ciliare.** *Ann. d' Ottalm.*, vol. x, Fasc. 4 and 5. Successful neurotomy in an eye, which had become blind through an injury. After a few hours already the photophobia of the other eye ceased.

862. PECK, E. Sympathetic ophthalmia due to symblepharon. *N. Y. Med. Rec.*, Apr. 16, 1881. Symblepharon of an eye affected with iridochoroiditis; sympathetic ophthalmia in the other. The condition was improved by severing the symblepharon. SWAN BURNETT.

863. PONCET. The **development of sympathetic ophthalmia, after enervation.** Rep. of the Intern. Med. Cong., London, August, 1881. These ARCHIVES, x, p. 336.

864. SNELLEN. The **nature of sympathetic ophthalmia, especially its manner of transmission.** Rep. of the Intern. Med. Cong., London, August, 1881; *cfr.* these ARCHIVES, x, p. 336.

865. UHTHOFF (Schöler's ophthalmic clinic). A **contribution to sympathetic ophthalmia.** *Deutsche med. Wochenschr.* of Börner, 1881, No. 33. Two cases. 1. Sympathetic plastic irido-choroiditis six weeks after a perforating sclero-corneal wound; seven weeks later, iridectomy preserving V—$\frac{1}{3}$. 2. The author found a circumscribed, rather large, spindle-shaped swelling in a ciliary nerve of an eye which had been enucleated for sympathetic ophthalmia; the swelling consisted of masses of micrococci. Sympathetic ophthalmia had set in three weeks after the injury.

866. WEBSTER, DAVID. **Sympathetic neuro-retinitis.** *N. Y. Med. Rec.*, March 5, 1881. Two cases of this kind: one due to a phthisical stump, after an injury; the other, to symblepharon. SWAN M. BURNETT.

IV.—LENS.

867. ARMAIGNAC, H. Cataracte traumatique chez un homme de trente quatre ans, résorption du cristallin, atrophie partielle du nerf optique; diminution considérable du champ visuel et de la vision. *Rev. d'Ocul. du Sud-ouest*, vol. ii, No. 10, p. 221.

868. ARMAIGNAC, H. 1. Cataracte congénitale double, adhérente à gauche; atrésie pupillaire des deux cotés résistant à l'action de l'atropine; microphthalmus; nystagmus continuel; strabisme bilatéral en haut et en dedans; absence complète de fixation. Extraction du cristallin à gauche, iridectomie à droite, amélioration de la vue. *Rev. d'Occul. du Sud-ouest*, vol. ii, No. 10, p. 241. 2. Cataracte congénitale double; hérédité morbide remarquable; opération à l'age de 29 ans. Traumatisme de l'œil quatre mois après l'opération ayant occasionné la rupture complète de la plaie cornéenne et l'issue de l'iris et du corps vitré. Guérison rapide et conservation de la vue. *L. c.*, p. 246.

869. v. BECKER. Cases of axial cataract. *Finska läkar. handl.*, vol. xxxiii, 1, p. 45.

870. MICHEL. The **influence of disturbed circulation of the carotid on the eye.** *Contrib. to Ophth.*, Bergmann, Wiesbaden, 1881. Disturbances of longer duration, like sclerosing atheromatous changes of the walls of the blood-vessels, mainly affect the nutrition of the lens, as is shown by the description of fifty-three cases of this kind.

871. NETTLESHIP, E. **Dislocation of opaque lens between sclerotic and ciliary body.** *Trans. Oph. Soc. of United Kingdom*, i, 24.

Nine years after a lacerated wound of cornea and iris the opaque shrunken lens passed forward into the anterior chamber, and from thence (when patient was recumbent) upward out of sight into a large pouch formed by separation of upper part of ciliary body from sclerotic. It was freely movable. Successful downward extraction. E. NETTLESHIP.

872. PILONI (Montalcino). Sopra un caso di cateratta. *Boll. d'Ocul.*, vol. iv, No. 1, Sett. 1881, 1. Cfr. *Rev. d'Ocul. du Sud-ouest*, vol. ii, No. 12, p. 273.

873. SAMELSOHN (Cologne). **The current of liquids in the lens.** *Z. M. f. klin. A.*, vol. xix, p. 265. In three cases of opacities of the lens due to embedded particles of iron, the author found immediately under the capsule a circle of round brown spots regularly situated at equal distances from each other, and corresponding to the pupil when dilated at maximum, while not a particle had penetrated beyond toward the æquator. A migration of the spots could be observed, in course of which the points of the radiations finally united with the spots of the external ring. The author therefore assumes that the great current flowing from behind is checked in Petit's canal and thence enters the æquator of the lens, through which it passes in a centripetal direction, then collects at the anterior pole, whence it flows in a centrifugal direction toward the suspensory ligament, where it leaves the lens and enters the posterior chamber.

874. THEOBALD, SAMUEL (Baltimore). **Total congenital dislocation of the lens with preservation of useful vision.** Amer. Ophth. Soc. at Newport, 1881. There was also corectopia. In upright position the patient's

V with + 24 — ½ in the right eye. When he bent his head forward, he could read Jaeger No. 1 at 1½" distance. There was myopia of about ¼.

SWAN M. BURNETT.

875. ULLMAN, G. Contribution à l'étude de l'étiologie de la cataracte, 102 pages. Paris, 1881, Delahaye & Comp.

876. WORDSWORTH, J. C. **Case of simultaneous subconjunctival dislocation of both crystalline lenses, caused by the kick of a horse.** (*Roy. Lon. Oph. Hosp. Rep.*, vol. x, pt. 2, p. 204. June, 1881.) Patient was knocked down, the bones of his nose were fractured and both eyes ruptured. The lens in each eye lay under the conjunctiva, at upper and inner side of margin of cornea. Laceration in sclerotic was concentric with upper and inner margin of cornea. There was a good anterior chamber. The pupils were drawn upward, and were occupied by dark clots. Two weeks after admission, lens was removed by dividing conjunctiva. Patient left hospital in a few days, and was again admitted a few months later for choice of glasses. Right eye, V=$\frac{20}{30}$ with + 10.5 D. Left eye, V= $\frac{20}{40}$ with same glass.

V.—VITREOUS BODY.

877. BEYER. Persistent hyaloid artery, Cloquet's canal, and fissure at the entrance of the optic nerve. *Prag. med. Wochenschr.*, No. 34 and 35.

878. BRAILEY. Seven cases of **suppurative hyalitis.** *Roy. Lond. Ophth. Hosp. Rep.*, vol. x, 2, p. 225.

879. CHARNLEY, W., and FOX, L. WEBSTER. **Three cases of new formation of blood-vessels in the vitreous.** *Roy. Lond. Ophth. Hosp. Rep.*, vol. x, pt. 2, p. 193. June, 1881. Three interesting cases of this rarely-described condition, with two plates illustrating the appearances presented in Cases 1 and 2. C. and F. say they have been able to find only four cases of new formation of vessels in the vitreous visible with the ophthalmoscope, hitherto recorded. At the close of the paper they allude to a case which has been published since their article was written, in the *Centralblatt für praktische Augenheilkunde* for February, 1881. (The present Reporter has seen a well-marked example occurring in a case of hemorrhagic retinitis and resembling Case 3.) FITZGERALD.

880. HEBB and BRAILEY. On the **phenomena of suppurative cyclitis and their relation to the migration theory.** *Roy. Ophth. Hosp. Rep.*, vol. x, 2, p. 269.

881. HUTCHINSON, JON. A case of **primary intra-ocular hemorrhage, etc., with remarks on the causes of the occurrence.** *Trans. Ophth. Soc. United Kingdom*, i, 26, 1881. A detailed account of, and commentary upon, a case in which multiple recurrent hemorrhages occurred into the retina and vitreous in a young man; first eye lost by glaucoma following the hemorrhage, second eye attacked two years later, with relapses of bleeding, but no glaucoma. *Sudden* occurrence of *very large* hemorrhages followed by *rapid absorption.* Constipation, liability to epistaxis, variable circulation, low arterial tension with dilated tortuous arteries, were the personal peculiarities. No albuminuria, no syphilis. Strong family history of gout. The author thinks it probable

that this peculiar disease, of which he has seen and appends other cases, is very often associated with gout; that the male sex, period of puberty, and a liability to rapid changes of vascular tension from various causes, are predisposing conditions; any temporary cause of turgescence, especially during the recumbent posture, determining the rupture of vessels whether in the eye or nose. He does not attach quite so much importance to constipation as the starting-point, as does Mr. Eales in his valuable paper on the same subject (*Birmingham Medical Review*, July, 1880). (See a second paper by Eales at Internat. Med. Congress, London, 1881.) E. NETTLESHIP.

VI.—RETINA AND FUNCTIONAL ANOMALIES.

882. DEBIERRE, L. Du décollement rétinien et de son traitement. 76 pages. Paris, 1881. Delahaye and Comp.

883. DICKINSON, W. Hemiopia: mechanism of its causation on the theory of total decussation of the optic tracts at the chiasma. *Amer. Alienist & Neurologist*, April, 1881. Well-known theoretical deduction.

884. DICKINSON, W. and POLLACK. Cases of glioma. *St. Louis Med. & Surg. Journ.*, vol. xi, 1, No. 3, p. 255.

885. EALES (Birmingham). Primary retinal hemorrhages in young people. Rep. of the Intern. Med. Congr., London, Aug., 1881, These ARCHIVES, x, p. 338.

886. FERRIER, DAVID. **Cerebral amblyopia and hemiopia.** *Brain*, Jan., 1881, pp. 456–477. (Communicated to the British Medical Association at Cambridge, Aug., 1880.)

Recent experiments by the authors and Prof. Gerald Yeo showed that in monkeys (1) complete permanent blindness could only be produced by total destruction of both angular gyri and both occipital lobes; (2) destruction of both occipital lobes had no discoverable effect on V (in opposition to Munk); (3) destruction of one angular gyrus caused blindness of opposite eye, but only for a few hours; (4) simultaneous destruction of both ang. gyri caused blindness of both for a few days, followed by gradual return of vision, but perhaps not perfect; (5) destruction of ang. gyrus and occipital lobe, same side, caused hemiopia of both eyes, Probably, therefore, there is a twofold relation between eyes and cortical visual centres: one crossed by the angular gyrus; the other bilateral, by the occipital lobe in conjunction with the ang. gyrus. The cross amaurosis from lesion of ang. gyrus is, like that in cerebral hemianæsthesia, due to lesion of fibres of posterior third of internal capsule; hence, probably, these fibres are in special relation with the ang. gyrus and represent the opposite eye.

F., from his own experiments (5) and from consideration of Munk's experiments (hemiopia from destruction of one occipital lobe) and of various published cases, concludes in favor of the recent suggestion that hemiopia may be due to occipito-angular cerebral lesion, as well as to disease of optic tract. It is, he thinks, probable that in cerebral hemiopia central vision is always retained over an area of a few degrees, and better in the eye opposite to the lesion, but in peripheral hemiopia (optic tract or corp. genic.) the defect extends over exactly half the field. F. also discusses the question of recovery from hemiopia in them, and gives a case of probable partial recovery. Cases (with field-charts) of amblyopia in hemianæsthesia are also given. E. NETTLESHIP.

887. GILLE. Hemiopie avec hémiplégie. Paris, 1881. Delahaye and Comp.

888. GOWERS, W. R. Case of **optic neuritis with paralysis of upward movement of eyes.** *Trans. Ophth. Soc. of United Kingdom*, i, 117, 1881.

F., 23; headache 2½ years, weakness of legs, occasional vomiting, a few fits, double optic neuritis with bad vision, no power of moving eyes upward, pupils nearly motionless, accommodation nearly abolished. Possibly tumor of middle lobe of cerebellum. E. NETTLESHIP.

889. GREENHILL. On the meaning of the words "Nyctalopia" and "Hemeralopia," with a critical examination of the use of these words in the ancient Greek and Latin authors. *Roy. Lond. Ophth. Hosp. Rep.*, vol. x, p. 284.

890. HASSENSTEIN, R. **Homonymous amaurosis after injury of the skull**, cured by trephining. *Inaug.-Dissert.*, Königsberg, 27 pages, June, 1881.

891. HENSE. **Hemianopsia in injuries of the skull.** *C. f. A.*, vol. v, p. 204, 2 cases. In one, left-sided hemianopsia with a sharp limit in the vertical meridian, due to a shot in the right side of the forehead. The second case was caused by a fall upon the head and fracture of the skull (where? Rep.) giving rise to right-sided hemianopsia with incomplete amaurosis of the half of the field of vision in question of the right eye. The author assumes circumscribed hemorrhage as the cause, which had compressed one optic tract before entering the chiasma.

892. HIRSCHBERG. **One-sided neuro-retinitis with retinal hemorrhages in both eyes after severe hematemesis.** *Ber. der Heidelb. Ophth. Vers.*, Sept., 1881. The swelling soon subsided, but the inflamed optic disc afterward became atrophic. Three years later the patient died after another attack of pulmonary hemorrhage, but no traces of a former hemorrhage into the vaginal space of the optic nerve could be found.

893. PARINAUD. De l' héméralopie dans les affections du foie et de la nature de la cécité nocturne. *Arch. génér. du Med.*, April, 1881.

894. PEUNOFF, A. J. **Retinitis interstit. circumscripta hyperplastica.** *Medic. Sbornik. Ausg. d. Kaiserl. kaukas. med. Ges.*, 1881, No. 32. The author describes 3 cases from Hirschmann's clinic and a case of his own from the military hospital in Tiflis; all are classified as retinitis proliferans. The essential feature is the formation of membranes, which take their origin partly in the retina, partly in the papilla, overspread the retina, and protrude into the vitreous. In two cases the membrane contained blood-vessels, whose connection with the retinal vessels could be clearly traced in only one case. Twice there was neuro-retinitis beyond a doubt. Twice both eyes were affected, twice only one. In one case syphilis was the cause; in two, iritis; and in one, choroidal changes had previously existed. Hemorrhages into the vitreous could not be demonstrated in all cases. After careful consideration of his cases and those of Jaeger, Hirschberg, Manz, and Leber, Peunoff comes to the conclusion that retinitis proliferans (Manz) is not a distinct disease, but the possible result, in some cases a stage of parenchymatous retinitis, that its extent is generally limited, and that the repeatedly observed hemorrhages into the vitreous are not without influence upon the formation of the membranes. The author

would like to adopt the name proposed by Reich "Retinitis interstitialis hyperplastica circumscripta." The improvement obtainable is but limited.

HIRSCHMANN.

895 *a*. PONCET. Communication relative à l' héméralopie. *Gaz. des Hôpitaux*, 1881.

896. SCHIRMER, R. Macropsy and micropsy (Encyclop. Art.). *Eulenberg's Real-Encyclop. d. ges. Heilk.*, vol. viii, p. 525.

897. STEINHEIM. **Temporal hemianopsia.** *C. f. A.*, vol. v, p. 233 It was caused in a man 40 years old by a tumor arising from the palate, which on account of the accompanying cerebral symptoms made the existence of an intracranial proliferation at the anterior angle of the chiasma very probable. No autopsy.

898. TREITEL. **Sharply defined recurrent temporal hemianopsia;** paralysis of the right oculomotor and trochlearis nerves and of the left facial nerve. Recovery. *A. f. A.*, vol. x, 4, p. 460. It was observed in a woman 27 years old, who had married a syphilitic man. It soon disappeared, leaving only a paracentral scotoma. Later, periostitis of the right frontal bone, paralysis of all the branches of the oculomotor nerve and of the trochlearis; while in the left eye, with V — 1, only the facial nerve was paralyzed, though there was a considerable defect in the lower-outer quadrant and a large scotoma in the upper-outer quadrant. Cured by inunction. The author is inclined to accept syphilitic periostitis at the base of the skull and partial compression of the chiasma as the cause.

899. TAY, WARREN. **Peculiar changes at the yellow-spot region in each eye of an infant.** *Trans. Ophth. Soc. of United Kingdom*, i, 55, 1881. (With plate.)

Changes in retina at each *macula*, like those in early period of retinal embolism, but papillæ and retinal vessels normal; 4 months later papillæ *becoming atrophic*, but changes at maculæ unaltered. Child æt. 12 months, weak, listless, unable to hold head up; but no definite disease made out; sight thought to be rather defective. (Plate of ophthalmoscopic changes.) E. NETTLESHIP.

900. DE VINCENTUS. **Sul glioma della retina.** *Ann. d'Ottalm.*, vol. x, Fasc. 4 and 5. Five accurate clinical histories with the result of the autopsy and the microscopic examination of the tumor. The children were 3, 4, 6, 7, and 8 years old. DANTONE.

901. WILBRAND (Hamburg). **Hemianopsia and its relation to the localization of diseases of the brain.** Hirschwald, Berlin, 1881, 214 pages. A critical investigation, with a careful consideration and lucid classification of the material, so far as it relates to this affection and the cerebral diseases connected with it. Good book for reference.

VII.—OPTIC NERVE.

902. CATON, R. **Case of uni-ocular optic neuritis with symptoms of cerebral tumor.** *Liverpool Medico-Chir. Jour.*, July, 1881, p. 28.

Man, 28, with severe left-sided headache, vertigo and vomiting. Optic disc in left eye congested, and V failed down to 0. Paralysis of left third nerve.

Gradual recovery; sight of left eye not completely restored for a year. Old depressed fracture on right side of skull. No syphilis.

903. CRITCHETT, G. A., and STURGE, W. A. **Intra-ocular tumor following symptoms of cerebral tumor.** *Trans. Ophth. Soc. of the United Kingdom*, vol. i, p. 136, 1881. Man, 26 years old; severe headache, vomiting, double vision, optic neuritis going into atrophy; recovery from head symptoms. At 30 the right eye showed slight proptosis, detachment of retina, and hemorrhage into the vitreous; T +. E. NETTLESHIP.

904. HAASE. **Embolism of the central retinal artery.** *A. f. A.*, vol. x, 4, p. 469. (1) Within 6 months second attack of blindness on the same eye with all the symptons of embolism; complete recovery. (2) In a patient with heart disease, 10 years before the second attack, loss of sight in the right eye from embolism, from which he recovered, and now of the left eye, with complete restitution in two weeks. (3) Sudden blindness in a patient with hypertrophy of the left ventricle, caused by embolism of small branches of the retinal artery, and ending in glaucoma.

905. MICHEL. The affections of the sheaths of the optic nerve. Paper read before the Phys.-med. Soc. of Würzburg. *Sitzungsber.*, No. 7. 1881.

906. OLIVER (Edinburgh). **Sudden loss of sight in neuritis.** (*Med. Times and Gazette*, May 21, 1881, p. 577.) O. suggests in answer to a paper of Dr. Hughlings Jackson that the sudden loss of sight in neuritis with no aggravation of the ophthalmoscopic signs may be due to a rise of tension in the eye. FITZGERALD.

907. SAMELSOHN (Cologne). The pathological changes in retrobulbar neuritis. Rep. of the Intern. Med. Congress, London, Aug. 1881. These ARCHIVES x, p. 339.

908. SCHÜLLER. Contributions to the pathology of the optic nerve. *C. f. A.*, vol. v, p. 236, and *Inaug.-Diss.*, Berlin, 1881. Atrophy of the optic nerve due to a deformity of the skull (turreted skull); the left eye was amaurotic. A brief report of the 4 cases thus far recorded is added. It is doubtful whether in the typical cases optic neuritis has always existed, or whether hyperostosis at the optic foramen has destroyed the power of transmission and caused atrophy of the optic nerve. 3 cases of traumatic atrophy of the optic nerve. One due to a thrust with a rapier. Absence of the upper half of the field of vision. Three weeks later atrophy began. 2 cases of contusion of the globe resulting in amaurosis and atrophy.

909. STREATFEILD. **Orbital tumor with optic neuritis in both eyes.** *Trans. of the Ophth. Soc. of the United Kingdom* and *Brit. Med. Journ.*, April 9, 1881. Case of a boy 12 years old, who probably had a tumor of the left frontal bone, which had grown inward and thus exerted a pressure upon the optic nerves and the brain. FITZGERALD.

VIII.—INJURIES, FOREIGN BODIES (PARASITES).

910. BERLIN. **Traumatic lesions of the optic nerve and the ohpthalmic artery within the optic canal.** *Sitzungsber. d. Heidelb. Ophth. Vers.*, Sept., 1881. The author found in one case a rent in the intracranial part

of the optic nerve. It went through the whole nerve, had torn the sheath, and severed the ophthalmic artery. Referring to the history of sudden amaurosis after contusions of the forehead, etc., and fractures of the skull, he calls attention to the fact that as early as 1845 Nuhn sought to explain it by an injury or rent of the optic nerve within the optic foramen.

911. COHN, HERM. **Five extractions of cysticercus from the eye** with demonstration of the cases. *Bresl. ärztl. Zeitsch.*, 1881, No. 23 and 24. He operated according to Graefe's method, and succeeded in preserving sight, partly in some cases, entirely in others, while in all the shape of the globe remained perfect. Finally he mentions the symptoms distinguishing cysticercus from (1) iritis, (2) sudden cloudiness of vision, (3) a white spot in the fundus of the eye, (4) detachment of the retina.

912. GAYET. **De l' expulsion totale de l'iris par un choc sur le globe oculaire, et d' une difformation temporaire du cristallin.** *A. d' Ophth.*, vol. i, p. 419. Injury of the right eye by a fall upon the edge of a table. After the extensive ecchymosis had been absorbed, the iris was found at some distance from the upper inner edge of the cornea, under the conjunctiva, in the neighborhood of the scleral wound. Ciliary processes clearly visible. Lens clear and not dislocated, but a change in the curvature recognizable with the ophthalmoscope at a point opposite the rent in the sclera, which afterward disappeared. It could not be determined whether there was a partial elevation or depression of the surface of the lens. After reporting briefly two cases of partial detachment of the iris the author tries to explain the mechanism of these injuries by assuming that in the first place the trauma causes a contraction of the muscular elements of the iris and thus easily detaches the stretched membrane from its ciliary insertion, where it is thinnest. v. MITTELSTÄDT.

913. HERDEGGEN. **So-called commotis retinæ.** These ARCHIVES, x, p. 399. The author begins by critically examining the cases thus far reported. He inclines toward the view of Berlin, who, in the majority of cases of this kind, assumes pathological changes in the retina, which in some have been shown to exist, but cannot be the cause of the visual disturbances. The slight temporary disturbance of central vision may be ascribed to transient astigmatism and myopia, produced by a spasm of the ciliary muscle.

914. LEBER. **The action of foreign bodies within the eye.** Rep. of the Intern. Med. Congr. London, Aug., 1881. These ARCHIVES, x, p. 333.

915. RAVÀ. Nuove communicazioni ottalmologische. *Ann. d' Ocul.*, vol. x, Fasc. 4 and 5. Three cases of peculiar injuries. 1. **Rupture of the choroid after a blow** from a blunt object, producing only a very slight hemorrhage and not injuring the other membranes at all. Its direction was from above downward and outward from the disc; its length 5–6 diameters of the papilla, and its breadth $\frac{1}{2}$ *mm*. 2. **A shot encysted in the retina** and choroid, visible with the ophthalmoscope. It had entered 6 *mm*, from the outer edge of the cornea. The irritation soon disappeared, leaving V = $\frac{1}{4}$. Though observed for 1$\frac{1}{2}$ years, no further changes were noticed. 3. **Piece of gun-cap in the papilla** behind the lamina cribrosa.

916. SCHENKL. Rupture of the globe by pressing upon it after an operation for glaucoma. *Prag. med. Wochenschr.*, vol. vi, 1, p. 11.

917. SCHIESS-GEMUSEUS. Rupture of the choroid produced by a blow with a stick; 17. *Jahresber. d. Augenheilanst zu Basel*, 1881. V — ½ remained.

918. TREITEL. **Injury of the optic nerve within the orbit with complete loss of sight, the globe itself remaining intact.** *A. f. A.*, vol. x, 4, p. 464. A sword-thrust was the cause, which, besides the amaurosis, produced paralysis of the inferior rectus muscle. Diffuse opacity of the retina around the disc. Two weeks later atrophy of the papilla began. Probably the orbital part of the optic nerve was injured prior to the entrance of the retinal blood-vessels.

IX.—OCULAR AFFECTIONS IN CONSTITUTIONAL DISEASES.

919. ANDERSON, MCCALL. **Tumor of 4th ventricle causing double ophthalmoplegia.** *Edinburgh Med. Jour.*, Sept. 1881, p. 209.

The patient, a man, began to suffer from left internal squint, æt. 34; drowsiness and stupor came on for some time; then vertigo; then attacks of headache, hiccough, and profuse viscid salivation lasting many hours; and some difficulty of swallowing and paresis of one facial nerve. The ocular paralysis slowly increased, involving all the extrinsic muscles of both eyes. No disease of optic papilla. Death three years after onset of symptoms. Glioma of medulla oblongata projecting into floor of 4th ventricle and largest on right side. E. NETTLESHIP.

920. BARLOW. Case of pneumonia with endocarditis. *Med. Times & Gaz.*, Feb. 12, 1881, p. 187. Among the complications mention is made of meningitis and retinal hemorrhages.

921. BRAILEY, W. A. and EDMUNDS, WALTER. **The relation of the retinal changes to the other pathological conditions** of Bright's disease. *Trans. Ophth. Soc. United Kingdom*, i, 44. 1881. With plate.

In patients dying of chronic Bright's disease the authors found changes in the small arteries of the retina, choroid, optic nerve, kidneys, and other parts. In the retina there may be: (1) thickening and hypernucleation of arteries and capillaries without narrowing of lumen; (2) hyaline thickening [or later stage of (1)]; (3) in localized areas, generally where retina shows the characteristic macroscopic changes of Bright's disease, great concentric thickening chiefly of the subendothelial part of the intima, with narrowing or obliteration of lumen. In the kidneys the arteries show some obliterative hypertrophy in a high degree. The arterial disease probably precedes the inflammatory and degenerative changes in the surrounding tissues, both of the kidney and retina. Degenerative hypertrophy of arteries and capillaries also found in many local eye diseases.

E. NETTLESHIP.

922. BULL, C. S. **Some points on the pathology of ocular lesions in cerebral and spinal syphilis.** *Amer. Jour. of Med. Science*, April, 1881. Bull reports 5 cases: 1. paresis of the left superior rectus, temporary ptosis, paraplegia, atrophy of the optic nerve in consequence of neuritis; 2, paresis of the right oculomotor nerve and superior oblique, afterward white atrophy of the optic nerve; 3, optic neuritis terminating in atrophy of the right optic nerve; 4, ptosis of the left eye, neuritis in both; 5, paresis of right inf. rect., ptosis dext., deafness in one ear, diminished hearing in the other, atrophy of the right optic nerve.

SWAN M. BURNETT.

923. BULL, OLE B. **The pathological changes in the fundus of the eye dependent upon syphilis.** Christiania, 1881, 103 pages. (1) Hyperæmia of the optic nerve, pp. 1–26, was frequently observed by the author as a symptom of recently acquired syphilis, but never later than two years after infection. At the same time slight swelling of the retina around the disc, especially above, below, and inward, but without essential functional disturbances. The author found it 160 times in 800 cases of constitutional syphilis. (2) Optic neuritis and atrophy is but very rarely the direct consequence. (3) Changes in the retina and choroid first manifest themselves as photopsias. Frequently there are scotomas or defects of half the field of vision ; micropsia, rarely macropsia. One of the most constant symptoms is the reduction of the sense of light. The loss of visual power, however, is generally greater than that of the sense of light (contra Förster). The reduction of color-perception is only the consequence of that of the perception of light. All these pathological changes are due to an affection of the retina, in defence of which view the author cites: (1) the shape and location of the scotomas, which radiating from the optic nerve frequently only extend to the vertical bisecting line and there end abruptly. (2) At first there are no changes in the choroid ; (3) the bright spots which are due to atrophy of the layer of pigment belonging to the retina are most numerous where formerly the scotomas were ; (4) the atrophic spots not seldom seem to be connected with the retinal blood-vessels. Retino-choroiditis occurs in about 8–10 per cent. of all cases of syphilis. Report of a large number of cases. SCHIÖTZ.

924. DREWES. Contribution to the statistics and diagnosis of syphilitic affections of the eye. *Inaug.-Diss.*, Berlin, 1881.

925. EALES, H. **Central amblyopia in diabetes.** *Lancet*, July 30, 1881, p. 200.

A man, 50, suffering from diabetes had V less than $\frac{15}{200}$ Sn., central amblyopia for colors. Vision better in dull light ; no ophthalmoscopic changes. E. (alluding to a previous paper) believes he was not a smoker. He died shortly afterward and no further details were obtained. E. NETTLESHIP.

926. GRADLE, H. **Spasm of the ciliary muscle of central origin.** *Journ. of Nervous and Mental Disease*, July, 1881. Shortly after an apoplectiform attack an examination with the ophthalmoscope and glasses showed myopia of 1.5 D, which disappeared under atropia. The author assumes a connection between the brain-disease and the spasm of accommodation.

SWAN BURNETT.

927. MCHARDY, M. M. **Tumor involving optic chiasma only.** *Trans. Ophth. Soc. of United Kingdom*, i, 128, 1881.

F., 35, deaf from infancy ; severe thirst 7 months, failure of V and headache 3 months. Unsteady shuffling gait with tendency to fall backward and to left, emaciation, voice weak, articulation slow, smell and taste good, advanced atrophy of discs with no proof of papillitis, temperature always subnormal. Urine normal. Death after noisy delirium 10 months after symptoms began. Firm, reddish, small tumor involving commissure, optic tracts, and inner roots of olfactory nerves. Microscopically it resembled a syphilitic growth.

E. NETTLESHIP.

928. HUGHLINGS-JACKSON. On **eye symptoms in locomotor ataxy.** *Trans. Ophth. Soc. United Kingdom*, i, 139-154, 1881.

Three eye symptoms, viz: paralysis of oculomotor nerve trunks, alterations of pupil, and optic atrophy were considered in relation to three non-ocular symptoms, viz: lightning pains, absence of knee reflex, and ataxic gait. The paper was based on 25 cases. Oculomotor paralysis preceding other tabetic symptoms is sometimes permanent, a case quoted which J. had known for 6 years. The common pupillary change is the "Argyll Robertson pupil," in which reflex action is lost and associated action retained; it may be absent in ataxy. It is seldom present without absence of knee reflex in ataxy, but it may be present without any other symptoms of nerve disease. A case detailed in which knee reflex was absent, there was persistent mydriasis, without cyclophlegia, in one eye, pupil and accommodation of other being normal. Optic atrophy may precede pains and ataxic gait even for several years. The limitation of field in this atrophy may "correspond roughly to certain ocular deviations from cerebellar disease, in the way that hemiopia does to lateral deviation of the eyes from cerebral disease." Atrophy was present in 12 of the 25 cases, and knee reflex absent in 9 of the 12. Atrophy recognized as the earliest symptom in only one of 19 cases. Proportion in which knee reflex disappears before any other symptoms, is unknown. E. NETTLESHIP.

929. HUGHLINGS-JACKSON. **Relation between optic neuritis and intracranial disease.** *Trans. of Ophth. Soc. of the United Kingdom*, vol. i, pp. 60–115, 1881. Elaborate paper based upon a large number of cases, upon the question of the connection between optic neuritis and intracranial affections, in which he thoroughly discusses the present theories of their pathogeny and etiology, and then seeks to explain optic neuritis himself by considering it to be the double indirect result of the gross cerebral disease, which causes instability of the surrounding gray matter, as shown by epileptiform seizures, muscular spasms, etc.; in an analogous manner contractions and paralytic dilatations of the vessels of the optic nerve occur, and give rise finally "to that trouble of nutrition which is optic neuritis." He, however, doubts the validity of this hypothesis for neuritis from tubercular meningitis. A lively debate followed.
E. NETTLESHIP.

930. KIPP, J. On eye affections from malarial poisoning. *Trans. of the Med. Soc. of New Jersey*, 1881. The observations were made after the high fever had subsided, and mainly upon affections of the cornea. These chiefly consisted in longitudinal infiltrations, with but a slight tendency to deepen; they form superficial ulcers, which may destroy a large part of the cornea; there is generally no hypopyon or chemosis, and the iris is affected to a varying degree. SWAN BURNETT.

931. KNAPP, H. Quinine amaurosis. These ARCHIVES, x, p. 220. *Sitzungsber. d. Heidelberger Ophth. Ges.*, Sept., 1881.

932. LEBER. **The connection between optic neuritis and intracranial diseases.** Rep. of the Intern. Med. Cong., London, Aug., 1881. These ARCHIVES, x, p. 338.

933. LITTLE, W. S. **Symptoms (reflex) in and about the eye, due to some affection of the uterus or its appendages.** *Phila. Med. Times*, June 18, 1881. Three cases of kopiopia hysterica (Förster). The symptoms disappeared immediately after the removal of the uterine trouble.
SWAN M. BURNETT.

934. MacKenzie, S. **Two cases of fatal idiopathic pernicious anæmia with retinal hemorrhages.** *Trans. Ophth. Soc. United Kingdom*, i, 48, 1881. With plate.

Case 1 (male, æt. 59). Multiple hemorrhages occurred in both retinæ, and were absorbed, but recurred after some weeks. Many were white at the centre as soon as three or four days after occurrence.

Case 2 (male, æt. 18). General symptoms at first thought to indicate scurvy (cutaneous petechiæ, bleeding gums). Gradually increasing retinal hemorrhages in both eyes, with œdema and blood-staining of retinæ. Plate showing progress of hemorrhages at six different dates. E. Nettleship.

935. Mandelstamm. Two cases of **metastatic inflammation of the eye in childbed.** *Z. M. f. Klin. Augenhlk.*, vol. xix, July, 1881, p. 285. 1. In a woman 52 years old, who had been delivered 5 weeks ago, an extra-ocular abscess had developed near the int. rect.; plastic iridocyclitis, result amaurosis. 2. Similar condition in a woman suffering from puerperal fever, which developed two weeks after delivery. Result the same.

936. Mauthner, L. **Neuro-retinisis in intracranial diseases.** *Wien. med. Blätter*, vol. iv, 10–18. Mauthner distinguishes between choked disc and neuro-retinitis; in the former the inflammation concentrates itself upon the papilla, in the latter upon the retina. Critical review of the various theories. Retinitis albuminurica and retinitis due to lead poisoning never present the appearance of true choked disc, so that when the latter is observed, an affection of the brain caused by the poison must be assumed.

937. Michel, J. Case of stenosis of both carotids with sudden amaurosis, presenting the picture of ischæmia and œdema of the retina, and a case of thrombosis of the right carotid, quickly followed by amblyopia of the right eye, which presented the ophthalmoscopic appearances above mentioned. *Ophthalmological contributions at Horner's jubilee*, Abh. i. J. F. Bergmann, Wiesbaden, 1881.

938. Mooren, A. **Visual disturbances and uterine diseases.** *A. f. A.*, vol. x, pp. 519–602, On the strength of his large clinical experience the author declares that there is no part of the eye which, either from a physiological or pathological point of view, is beyond the influence of the uterine system. The reflex theory is accepted to explain the reciprocal relations between these organs. For particulars see the article itself.

939. Nettleship, E. and Edmunds, Walter. Cases of **central amblyopia in diabetes, with microscopical examination** of optic nerve in one case. *Trans. of the Ophth. Soc. of the United Kingdom*, vol. i, p. 124, 1881, with plate.

Case 1. M., 52, advanced diabetes in a smoker. Well-marked central scotoma symmetrical in both eyes. Death. Sclerotic inflammation with atrophy of nerve fibres, in a tract of the nerve extending down its whole length (nerve not examined on brain side of optic canal); posteriorly this tract was nearly at centre of nerve, farther forward it appeared at or near the surface of the temporal part of the nerve; no changes seen anterior to lamina cribrosa. (Plate.)

Case 2. F., 30, advanced diabetes, slight amblyopia and small central scotoma. Result unknown. E. Nettleship.

940. NIEDEN, A. **Contributions to the knowledge of the connection between the affections of the brain and of the eye.** *A. f. A.*, vol. x, p. 603 ff. 1. Fibrosarcoma of the right cerebral hemisphere, optic neuritis and atrophy of the papilla in both eyes caused by an injury (detachment of the lamina vitrea). Death two years after blindness had set in under epileptiform symptoms. 2. Gliosarcoma of the pons and medulla of the right side, paralysis of the associate movements (conjugate deviation) of the eyes, slight optic neuritis of both eyes, paralysis of the right facial nerve, left-sided hemiplegia. He argues for the assumption of a centre of innervation governing the synergetical action of the superior oblique and inferior rectus muscles. 3. Cystoid degeneration of the right side of the cerebellum, optic neuritis, especially in the left eye, slight disturbances of co-ordination, sudden death. 4. Progressive paralysis gray atrophy of the optic nerve, 3 years before the commencement of the psychosis. No spinal symptoms. (Atrophy of the occipital lobe of the right cerebral hemisphere.) The right eye was the last to be affected.

MISCELLANEOUS NOTES.

APPOINTMENTS.

DR. JAS. A. SPALDING, so well known to our readers by his original contributions and able translations, has been appointed ophthalmic surgeon to the Maine General Hospital at Portland.

THREE NEW OPHTHALMOLOGICAL JOURNALS.

1. *The Ophthalmic Review*, a monthly record of ophthalmic science, edited by K. GROSSMANN and PRIESTLY SMITH. London: Churchill. Five numbers have appeared thus far, each containing short original papers, selected abstracts, and a bibliography. Price 1s. the number, 12s. the volume.

2. *Revue générale d'ophthalmologie*, recueil mensuel bibliographique, analytique et critique, dirigé par le Prof. DOR à Lyon and le Dr. E. MEYER, à Paris.

The English review seems to have chosen *Zeh. Klin. Mon.*, the French *Hirschberg's Centralblatt* as a pattern.

3. *A Journal of Comparative Ophthalmology*, by Prof. BERLIN and Dr. EVERSBUSCH of Stuttgart, is to appear shortly. Vogel, Leipzig, publisher.

ERRATA.

Page 13, ninth line from head, and thirteenth line from foot, should read *cmm.* instead of *ccm.*

Page 110, at the end of No. 651, the name of the reviewer of Dr. Ayres' paper should be BURNETT, not AYRES.